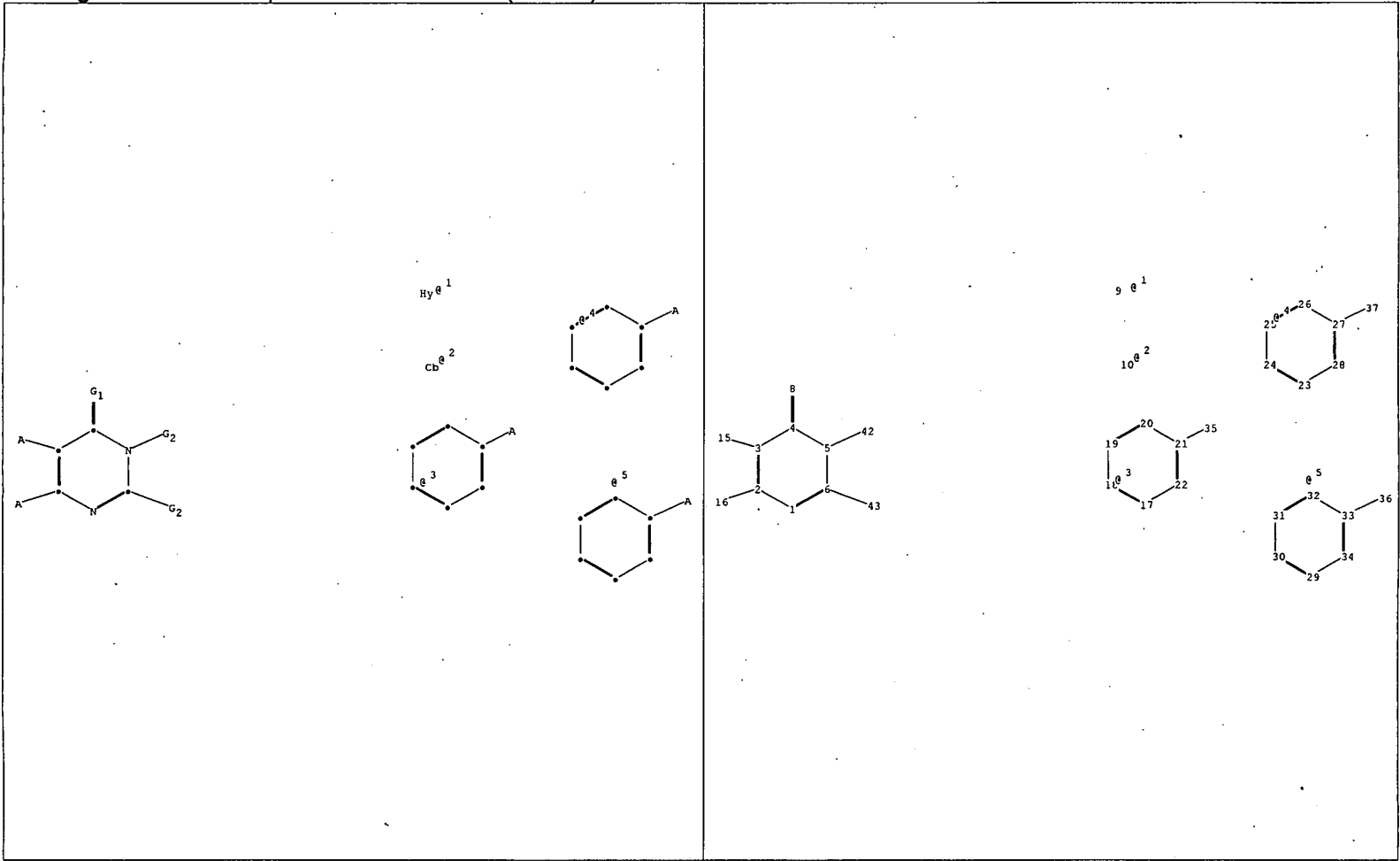


## EAST Search History

| Ref # | Hits    | Search Query  | DBs   | Default Operator | Plurals | Time Stamp       |
|-------|---------|---|---|------------------|---------|------------------|
| L1    | 2910    | ((544/319) or (514/269)).CCLS.                      | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/08/05 23:45 |
| L2    | 3338    | ((544/122,295) or (514/235.8,252.14, 252.18)).CCLS. | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | OFF     | 2007/08/05 23:45 |
| L3    | 1082929 | "2007".py.  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | ON      | 2007/08/05 23:45 |
| L4    | 144     | 1 and 3   | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | ON      | 2007/08/05 23:45 |
| L5    | 3458    | 2 or 4  | US-PGPUB;<br>USPAT;<br>USOCR;<br>EPO; JPO;<br>DERWENT | OR               | ON      | 2007/08/05 23:46 |



chain nodes :  
8 9 10 35 36 37 42 43  
ring nodes :  
1 2 3 4 5 6 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34  
ring/chain nodes :  
15 16  
chain bonds :  
2-16 3-15 4-8 5-42 6-43 21-35 27-37 33-36  
ring bonds :  
1-2 1-6 2-3 3-4 4-5 5-6 17-18 17-22 18-19 19-20 20-21 21-22 23-24 23-28 24-25 25-26 26-27 27-28 29-30  
29-34 30-31 31-32 32-33 33-34  
exact/norm bonds :  
1-2 1-6 2-3 2-16 3-4 3-15 4-5 5-6 5-42 6-43 21-35 27-37 33-36  
exact bonds :  
4-8  
normalized bonds :  
17-18 17-22 18-19 19-20 20-21 21-22 23-24 23-28 24-25 25-26 26-27 27-28 29-30 29-34 30-31 31-32 32-33  
33-34  
isolated ring systems :  
containing 1 : 17 : 23 : 29 :

G1:O,S,N  
G2:[\*1],[\*2],[\*3],[\*4],[\*5]

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS9:Atom 10:Atom 15:CLASS16:CLASS17:Atom 18:Atom 19:Atom  
20:Atom 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom  
33:Atom 34:Atom 35:CLASS36:CLASS37:CLASS42:CLASS43:CLASS

Generic attributes :

9:

Saturation : Unsaturated

10:

Saturation : Unsaturated

Number of Carbon Atoms : 7 or more

Type of Ring System : Polycyclic

Element Count :

Node 10: Limited

C,C8-18

10/827,368 (RCE)

=> ....Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 1840

L1 SCREEN CREATED

=> screen 2016 OR 2026 OR 2039 OR 2040 OR 2045 OR 2047

L2 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\10827368 (RCE A).str



chain nodes :

8 9 10 35 36 37 42 43

ring nodes :

1 2 3 4 5 6 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32  
33 34

ring/chain nodes :

15 16

chain bonds :

2-16 3-15 4-8 5-42 6-43 21-35 27-37 33-36

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 17-18 17-22 18-19 19-20 20-21 21-22 23-24  
23-28 24-25 25-26 26-27 27-28 29-30 29-34 30-31 31-32 32-33 33-34

exact/norm bonds :

1-2 1-6 2-3 2-16 3-4 3-15 4-5 5-6 5-42 6-43 21-35 27-37 33-36

exact bonds :

4-8

normalized bonds :

10/827,368 (RCE)

17-18 17-22 18-19 19-20 20-21 21-22 23-24 23-28 24-25 25-26 26-27 27-28  
29-30 29-34 30-31 31-32 32-33 33-34  
isolated ring systems :  
containing 1 : 17 : 23 : 29 :

G1:O,S,N

G2:[\*1],[\*2],[\*3],[\*4],[\*5]

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 8:CLASS 9:Atom 10:Atom 15:CLASS  
16:CLASS 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:Atom 24:Atom  
25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:Atom 31:Atom 32:Atom 33:Atom  
34:Atom 35:CLASS 36:CLASS 37:CLASS 42:CLASS 43:CLASS

Generic attributes :

9:

Saturation : Unsaturated

10:

Saturation : Unsaturated

Number of Carbon Atoms : 7 or more

Type of Ring System : Polycyclic

Element Count :

Node 10: Limited

C,C8-18

L3 STRUCTURE UPLOADED

=> que L3 AND L1 NOT L2

L4 QUE L3 AND L1 NOT L2

=> d 14

L4 HAS NO ANSWERS

L1 SCR 1840

L2 SCR 2016 OR 2026 OR 2039 OR 2040 OR 2045 OR 2047

L3 STR

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

Structure attributes must be viewed using STN Express query preparation.

L4 QUE L3 AND L1 NOT L2

=> s 14 sss sam

SAMPLE SEARCH INITIATED 19:44:39 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 30137 TO ITERATE

6.6% PROCESSED 2000 ITERATIONS  
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
SEARCH TIME: 00.00.01

1 ANSWERS

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 592359 TO 613121

10/827,368 (RCE)

PROJECTED ANSWERS: 69 TO 533

L5 1 SEA SSS SAM L3 AND L1 NOT L2

=> => s 14 sss ful

FULL SEARCH INITIATED 19:45:10 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 599615 TO ITERATE

100.0% PROCESSED 599615 ITERATIONS

133 ANSWERS

SEARCH TIME: 00.00.09

L6 133 SEA SSS FUL L3 AND L1 NOT L2

=> => s 16

L7 10 L6

=> d 17 1-10 bib,ab,hitstr

L7 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2007:591360 CAPLUS  
 DN 147:31135  
 TI Pyrimidinone derivatives as calcilytic compounds and their preparation, pharmaceutical compositions and use as calcium receptor inhibitors for treatment of bone and mineral diseases  
 IN Ku, Thomas Wen Fu; Lin, Hong; Luengo, Juan I.; Marquis, Robert W., Jr.; Ramanjulu, Joshi M.; Trout, Robert; Yamashita, Dennis S.  
 PA Smithkline Beecham Corporation, USA  
 SO PCT Int. Appl., 251pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

| PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|---|------|----------|-----------------|----------|
| WO 2007062370   | A2   | 20070531 | WO 2006-US61150 | 20061121 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW<br>RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM |      |          |                 |          |

PRAI US 2005-738731P P 20051122  
 US 2005-739067P P 20051122

OS MARPAT 147:31135

AB Novel calcilytic compds. of formula I, pharmaceutical compns., methods of synthesis and methods of using them are provided. Compds. of formula I wherein C is O and S; R1 and R2 are independently H, halo, CN; C1-10 alkyl, C2-6 alkenyl, cycloalkyl, (hetero)aryl, etc.; R3 is (un)substituted (hetero)aryl; R4 is (un)substituted (hetero)aryl, (un)substituted heterocyclyl, (un)substituted cycloalkyl-C1-4 alkyl, etc.; and their pharmaceutically acceptable salts thereof, are claimed. Example compound II was prepared by alkylation of Et 3-oxobutanoate with 3-bromo-2-methyl-1-propene; the resulting Et 2-acetyl-4-methyl-4-pentenoate underwent amidation with phenethylamine to give 2-acetyl-4-methyl-N-(phenethyl)-4-pentanamide, which underwent hydrogenation to give 2-acetyl-4-methyl-N-(phenethyl)-4-pentanamide, which underwent cyclization with 2-fluoro-3-methoxybenzamide to give 2-[2-fluoro-3-methoxyphenyl]-6-methoxy-5-(2-methylpropyl)-3-(2-phenylethyl)-4(3H)-pyrimidinone, which underwent demethylation to give compound II. All the invention compds. were evaluated for their calcium receptor inhibitory activity.

IT 938177-68-5P 938179-84-1P 938179-85-2P  
 938179-86-3P 938179-97-6P

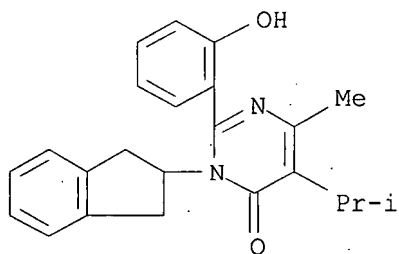
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of pyrimidinone derivs. as calcium receptor inhibitors useful in the treatment of bone and mineral diseases)

RN 938177-68-5 CAPLUS

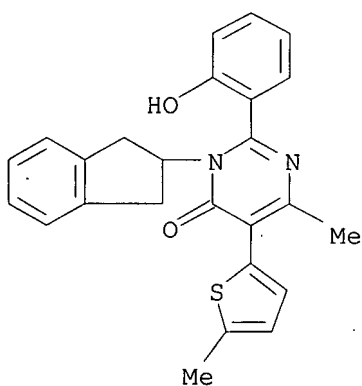
CN 4(3H)-Pyrimidinone, 3-(2,3-dihydro-1H-inden-2-yl)-2-(2-hydroxyphenyl)-6-methyl-5-(1-methylethyl)- (CA INDEX NAME)

10/827,368 (RCE)



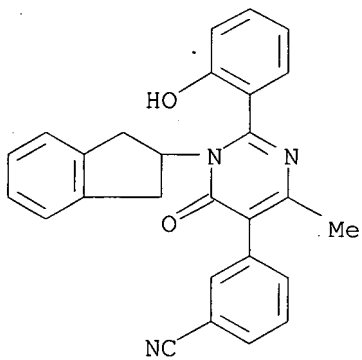
RN 938179-84-1 CAPLUS

CN 4(3H)-Pyrimidinone, 3-(2,3-dihydro-1H-inden-2-yl)-2-(2-hydroxyphenyl)-6-methyl-5-(5-methyl-2-thienyl)- (CA INDEX NAME)



RN 938179-85-2 CAPLUS

CN Benzonitrile, 3-[1-(2,3-dihydro-1H-inden-2-yl)-1,6-dihydro-2-(2-hydroxyphenyl)-4-methyl-6-oxo-5-pyrimidinyl]- (CA INDEX NAME)

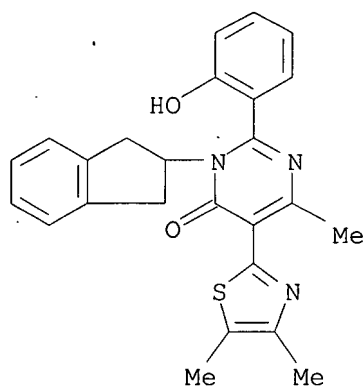


RN 938179-86-3 CAPLUS

CN 4(3H)-Pyrimidinone, 3-(2,3-dihydro-1H-inden-2-yl)-5-(4,5-dimethyl-2-thiazolyl)-2-(2-hydroxyphenyl)-6-methyl- (CA INDEX NAME)

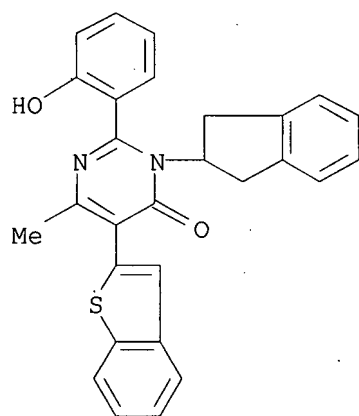


10/827,368 (RCE)



RN 938179-97-6 CAPLUS

CN 4(3H)-Pyrimidinone, 5-benzo[b]thien-2-yl-3-(2,3-dihydro-1H-inden-2-yl)-2-(2-hydroxyphenyl)-6-methyl- (CA INDEX NAME)



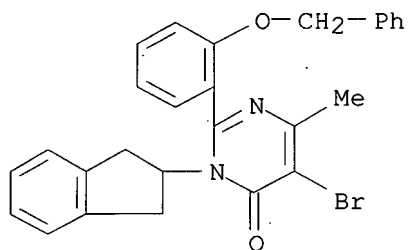
IT 938181-66-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; preparation of pyrimidinone derivs. as calcium receptor inhibitors useful in the treatment of bone and mineral diseases)

RN 938181-66-9 CAPLUS

CN 4(3H)-Pyrimidinone, 5-bromo-3-(2,3-dihydro-1H-inden-2-yl)-6-methyl-2-[2-(phenylmethoxy)phenyl]- (CA INDEX NAME)



L7 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2007:329344 CAPLUS  
 DN 146:337904  
 TI Preparation of pyrimidine carboxamides as inhibitors of cytokines and COX-2

IN Tadiparthi, Ravikumar; Aggarwal, Pawan; Parameswaran, Venkatesan;  
Thirunavukkarasu, Sappanimuthu; Barik, Rajib; Rajagopal, Sriram; Reddy,  
 Gaddam Om

PA Orchid Research Laboratories Limited, India

SO PCT Int. Appl., 75pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

*Common Int*

| PATENT NO.    | KIND   | DATE     | APPLICATION NO. | DATE     |
|---------------|--|----------|-----------------|----------|
| WO 2007031829 | A2   | 20070322 | WO 2006-IB2461  | 20060907 |
| W:            | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW |          |                 |          |
| RW:           | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM   |          |                 |          |

US 2007072876

A1

20070329

US 2006-516549

20060907

PRAI IN 2005-CH1302

A

20050915

OS MARPAT 146:337904

AB Title compds. represented by the formula I [wherein R = H, halo, amino, etc.; R1, R3 = independently H, SR6 or SQR7; R2, R4 = independently H, hydroxy, halo, etc.; R5 = H, hydroxy, azido, etc.; and their derivs., analogs, tautomers, stereoisomers, polymorphs, hydrates, solvates, pharmaceutically acceptable salts and compns. thereof] were prepared as Cyclooxygenase-2 (COX-2) inhibitors. For example, II was provided in a multi-step synthesis starting from 5-cyano-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine. I were tested in vitro evaluation of COX-2 inhibition activity in human whole blood assay, COX-1 and COX-2 enzyme based assay, in vitro measurement of tumor necrosis factor alpha (TNF- $\alpha$ ), and etc. Thus, I and their pharmaceutical compns. are useful for the prophylaxis or treatment of a pain disorder, inflammation, and immunol. diseases in a mammal, which are mediated by TNF- $\alpha$ , IL (1 $\beta$ , 1,6,8,12) and COX-2 activity.

IT. 613663-83-5, 5-Cyano-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine 812691-93-3, 5-Cyano-1-(3,4-dimethylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine 812692-22-1, 5-Cyano-1-(3,4-dimethylphenyl)-4-(methylthio)-6-oxo-2-(pyridin-3-yl)-1,6-dihydropyrimidine 812692-23-2, 1-(4-Methoxyphenyl)-4-(methylthio)-6-oxo-2-(pyridin-3-yl)-1,6-dihydropyrimidine-5-carbonitrile  
 RL: RCT (Reactant); RACT (Reactant or reagent)

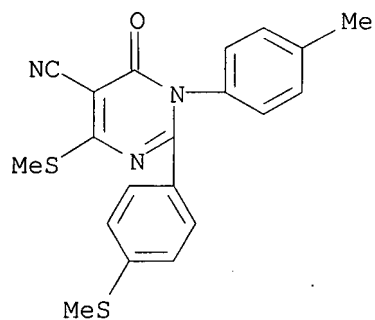
(preparation of pyrimidine carboxamides as inhibitors of cytokines and COX-2)

RN 613663-83-5 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)

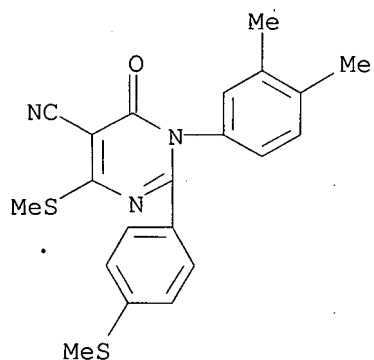
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10/827,368 (RCE)



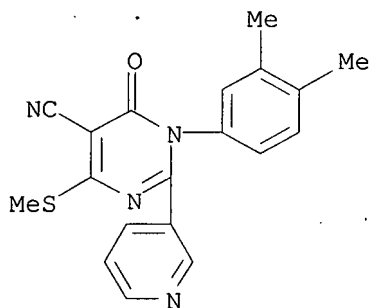
RN 812691-93-3 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



RN 812692-22-1 CAPLUS

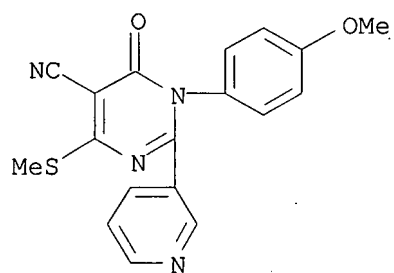
CN 5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(3-pyridinyl)- (CA INDEX NAME)



RN 812692-23-2 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methoxyphenyl)-4-(methylthio)-6-oxo-2-(3-pyridinyl)- (CA INDEX NAME)

10/827,368 (RCE)



L7 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2007:14078 CAPLUS  
 DN 146:121982  
 TI Preparation of pyrazolopyrimidinone derivatives as inhibitors of  
 production of cytokines for treatment of inflammation, cancer, etc.  
 IN Tadiparthi, Ravikumar; Pushpan, Simi; Rajagopal, Sriram; Barik, Rajib  
 PA Orchid Research Laboratories Limited; India  
 SO PCT Int. Appl., 46pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

*Common In*

| PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------|------|----------|-----------------|----------|
| WO 2007000655 | A2   | 20070104 | WO 2006-IB1791  | 20060628 |
| WO 2007000655 | A3   | 20070322 |                 |          |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

*not  
prior*

PRAI IN 2005-CH813 A 20050628

*no pending US appln.*

OS MARPAT 146:121982

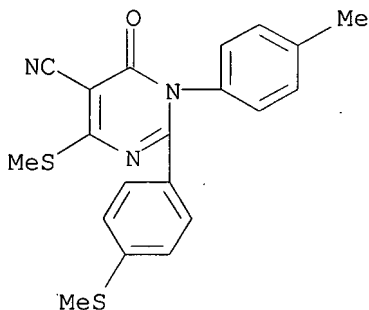
AB The title compds. I [Ar1, Ar2 = (un)substituted aryl, heteroaryl, heterocyclyl; R1 = H, hydroxyl, halo, etc.; R2 = H, hydroxy, nitro, etc.] are prepared Thus, 3-amino-5-(4-methylphenyl)-6-[4-(methylthio)phenyl]-1,5-dihydro-4H-pyrazolo[3,4-d]pyrimidin-4-one was prepared by from hydrazine hydrate and 5-cyano-1-(4-methylphenyl)-4-methylthio-2-(4-methylthiophenyl)-1,6-dihydropyrimidin-6-one. In an in vitro assay using human peripheral blood mononuclear cells and lipopolysaccharide, compds. of this invention at 10  $\mu$ M gave 29.8-87.8% inhibition of TNF- $\alpha$  production

IT 613663-83-5 812691-93-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of pyrazolopyrimidinone derivs. as inhibitors of production of cytokines for treatment of inflammation and cancer)

RN 613663-83-5 CAPLUS

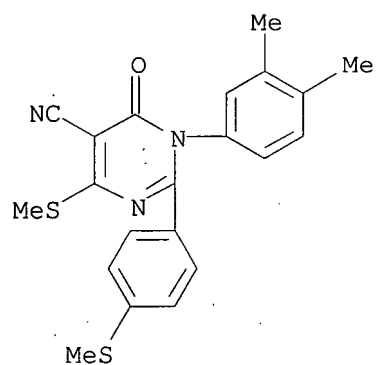
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



10/827,368 (RCE)

RN 812691-93-3 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



L7 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2006:1283525 CAPLUS  
 DN 146:45537  
 TI Preparation of pyrimidinedione derivatives for treating inflammatory diseases  
 IN Tadiparthi, Ravikumar; Aggarwal, Pawan; Reddy, Gaddam Om; Parameswaran, Venkatesan; Rajagopal, ~~Iram~~, Sr.; Raghuvveeraswaminathan, Sankaranarayanan  
 PA Orchid Research Laboratories Limited, India  
 SO PCT Int. Appl., 42pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

*Common Inv*

| PATENT NO.    | KIND   | DATE     | APPLICATION NO. | DATE     |
|---------------|--|----------|-----------------|----------|
| WO 2006129181 | A2   | 20061207 | WO 2006-IB1448  | 20060602 |
| W:            | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |          |                 |          |
| RW:           | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM   |          |                 |          |

*not prior*

PRAI IN 2005-CH682 A 20050603

*no US appl. pending*

OS MARPAT 146:45537

AB Title compds. represented by the formula I [wherein X = O or S; ring A, B = (hetero)aryl; R = H, OH, amino or (halo)alkyl; R1, R3 = independently H, SR5 or SOPR6; R2, R4 = independently H, halo, OH, NO2, etc.; R5 = H, alkyl(halide), aryl or alkylester; R6 = amino, OH, halo, etc.; Y = -C(=NH)R8 or -C(=NR9)R8; R8, R9 = independently H, amino, azido, etc.; m, n = 0-4; p = 1 or 2], useful for treating inflammatory diseases mediated by cytokines such as TNF- $\alpha$ , IL-1, IL-6, IL-8 and IL-12, were prepared E.g., reaction of 5-cyano-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine with methylamine gave II, which showed TNF- $\alpha$  inhibition with IC50 value of 2.6  $\mu$ M.

Pharmaceutical composition comprising the compound I is claimed.  
 IT 916451-81-5P, N-Methyl-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine-5-carboximidamide  
 916451-82-6P, N-Methyl-1-(3,4-dimethylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine-5-carboximidamide  
 916451-83-7P, N-Methyl-1-(4-isopropylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine-5-carboximidamide  
 916451-84-8P, N-Methyl-1-(3,4,5-trimethoxyphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine-5-carboximidamide  
 916451-85-9P 916451-86-0P 916451-87-1P  
 916451-88-2P 916451-90-6P 916451-92-8P  
 916451-93-9P 916451-94-0P, 2-(4-Methoxyphenyl)-N-methyl-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine-5-carboximidamide 916451-95-1P 916451-96-2P  
 916451-97-3P 916451-98-4P 916451-99-5P  
 916452-00-1P 916452-01-2P 916452-03-4P,  
 2-[4-(Aminosulfonyl)phenyl]-N-methyl-4-(methylthio)-6-oxo-1-(4-methylphenyl)-1,6-dihydropyrimidine-5-carboximidamide 916452-04-5P  
 , 2-[4-(Aminosulfonyl)phenyl]-N-methyl-4-(methylthio)-6-oxo-1-(3,4-dimethylphenyl)-1,6-dihydropyrimidine-5-carboximidamide

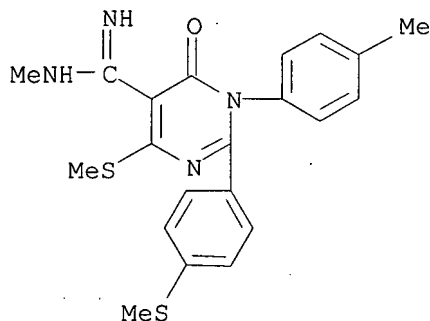
916452-05-6P, 2-[4-(Aminosulfonyl)phenyl]-N-methyl-4-(methylthio)-6-oxo-1-(4-fluorophenyl)-1,6-dihydropyrimidine-5-carboximidamide  
 916452-07-8P, 1-[4-(Aminosulfonyl)phenyl]-N-methyl-4-(methylthio)-6-oxo-2-(4-methylphenyl)-1,6-dihydropyrimidine-5-carboximidamide  
 916452-08-9P, 1-[4-(Aminosulfonyl)phenyl]-N-methyl-4-(methylthio)-6-oxo-2-(3,4-dimethylphenyl)-1,6-dihydropyrimidine-5-carboximidamide  
 916452-09-0P, 1-[4-(Aminosulfonyl)phenyl]-N-methyl-4-(methylthio)-6-oxo-2-(4-isopropylphenyl)-1,6-dihydropyrimidine-5-carboximidamide  
 916452-10-3P, 1-[4-(Aminosulfonyl)phenyl]-N-methyl-4-(methylthio)-6-oxo-2-(pyridin-3-yl)-1,6-dihydropyrimidine-5-carboximidamide  
 916452-11-4P, 1-[4-(Aminosulfonyl)phenyl]-N-methyl-4-(methylthio)-6-oxo-2-(pyridin-4-yl)-1,6-dihydropyrimidine-5-carboximidamide  
 916452-12-5P, 1-[4-(Hydrazinosulfonyl)phenyl]-N-methyl-4-(methylthio)-6-oxo-2-(pyridin-4-yl)-1,6-dihydropyrimidine-5-carboximidamide  
 916452-13-6P, 1-[4-(Hydrazinosulfonyl)phenyl]-N-methyl-4-(methylamino)-6-oxo-2-(pyridin-4-yl)-1,6-dihydropyrimidine-5-carboximidamide  
 916452-14-7P, 1-(4-Methoxyphenyl)-N-methyl-4-(1-methylhydrazino)-6-oxo-2-(pyridin-4-yl)-1,6-dihydropyrimidine-5-carboximidamide  
 916452-15-8P, 2-(4-Methylthiophenyl)-N-methyl-4-(1-methylhydrazino)-1-(4-methylphenyl)-6-oxo-1,6-dihydropyrimidine-5-carboximidamide  
 916452-16-9P 916452-17-0P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of pyrimidinedione derivs. for treating inflammatory diseases)

RN 916451-81-5 CAPLUS

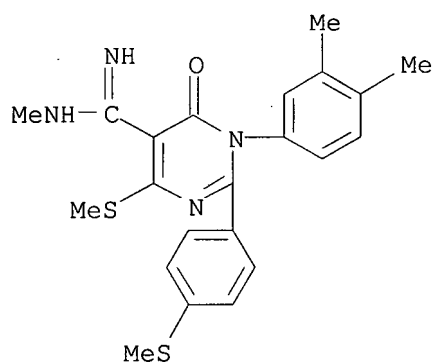
CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-N-methyl-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



RN 916451-82-6 CAPLUS

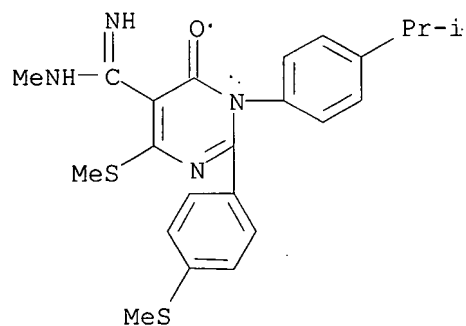
CN 5-Pyrimidinecarboximidamide, 1-(3,4-dimethylphenyl)-1,6-dihydro-N-methyl-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)





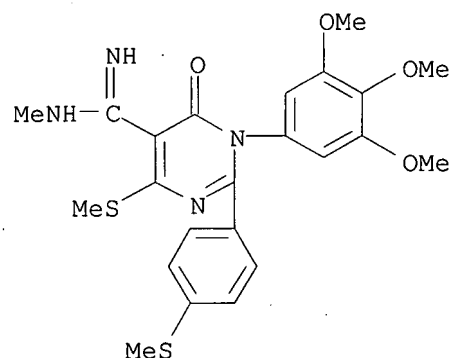
RN 916451-83-7 CAPLUS

CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-N-methyl-1-[4-(1-methylethyl)phenyl]-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



RN 916451-84-8 CAPLUS

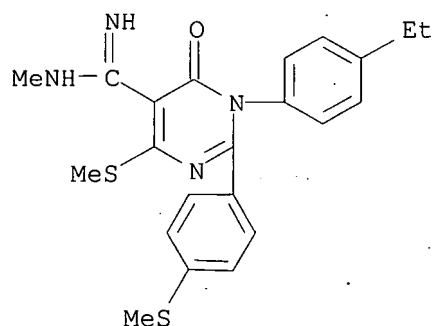
CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-N-methyl-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1-(3,4,5-trimethoxyphenyl)- (CA INDEX NAME)



RN 916451-85-9 CAPLUS

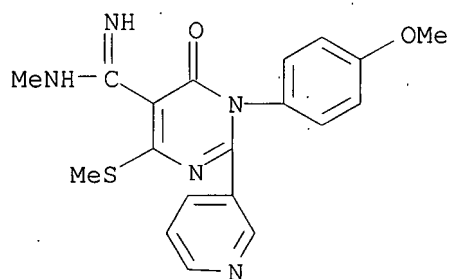
CN 5-Pyrimidinecarboximidamide, 1-(4-ethylphenyl)-1,6-dihydro-N-methyl-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)

10/827,368 (RCE)



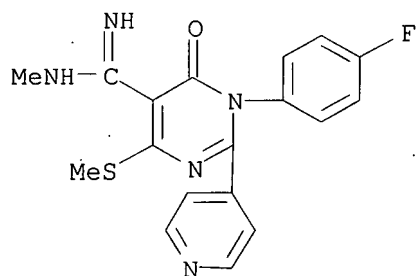
RN 916451-86-0 CAPLUS

CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-1-(4-methoxyphenyl)-N-methyl-4-(methylthio)-6-oxo-2-(3-pyridinyl)- (CA INDEX NAME)



RN 916451-87-1 CAPLUS

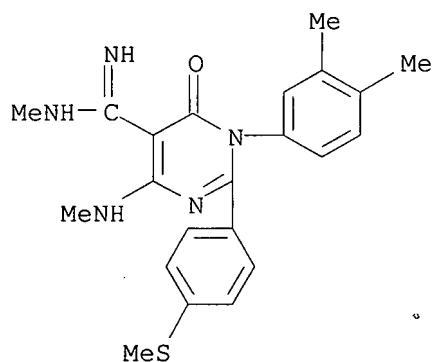
CN 5-Pyrimidinecarboximidamide, 1-(4-fluorophenyl)-1,6-dihydro-N-methyl-4-(methylthio)-6-oxo-2-(4-pyridinyl)- (CA INDEX NAME)



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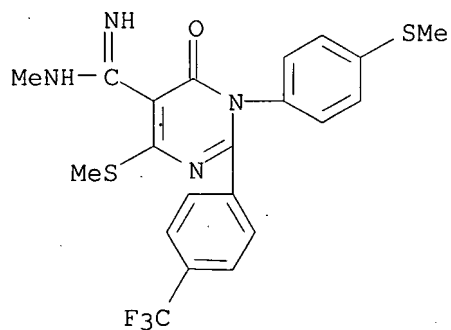
CN 5-Pyrimidinecarboximidamide, 1-(3,4-dimethylphenyl)-1,6-dihydro-N-methyl-4-(methylamino)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)

10/827,368 (RCE)



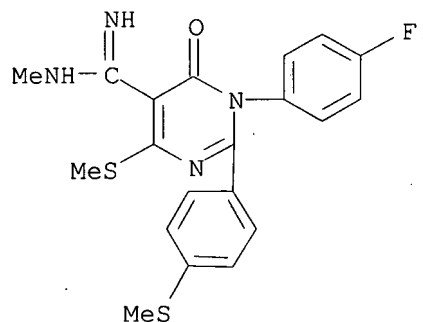
RN 916451-90-6 CAPLUS

CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-N-methyl-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo-2-[4-(trifluoromethyl)phenyl]- (CA INDEX NAME)



RN 916451-92-8 CAPLUS

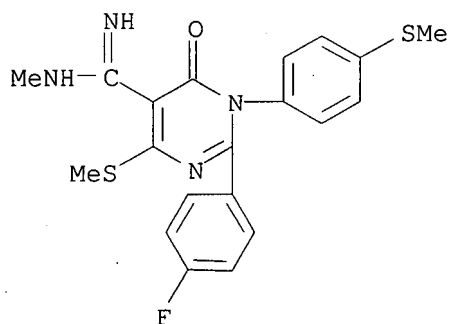
CN 5-Pyrimidinecarboximidamide, 1-(4-fluorophenyl)-1,6-dihydro-N-methyl-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



RN 916451-93-9 CAPLUS

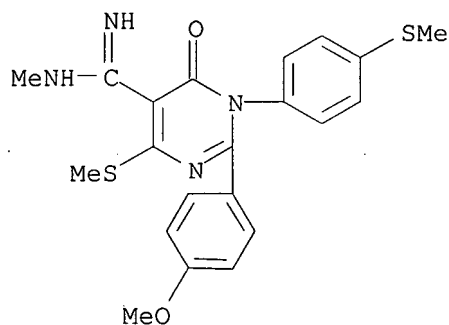
CN 5-Pyrimidinecarboximidamide, 2-(4-fluorophenyl)-1,6-dihydro-N-methyl-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)

10/827,368 (RCE)



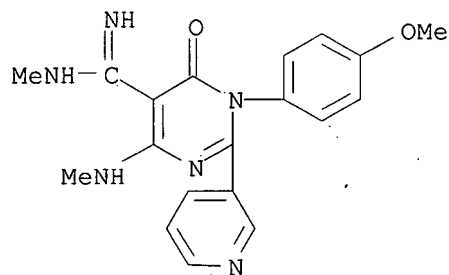
RN 916451-94-0 CAPLUS

CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-2-(4-methoxyphenyl)-N-methyl-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



RN 916451-95-1 CAPLUS

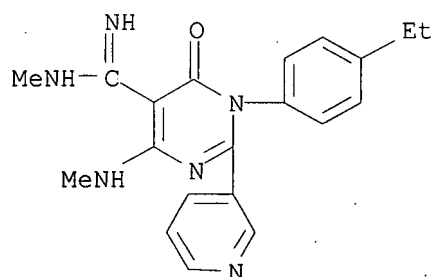
CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-1-(4-methoxyphenyl)-N-methyl-4-(methylamino)-6-oxo-2-(3-pyridinyl)- (CA INDEX NAME)



RN 916451-96-2 CAPLUS

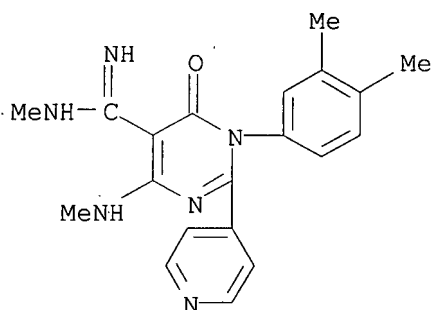
CN 5-Pyrimidinecarboximidamide, 1-(4-ethylphenyl)-1,6-dihydro-N-methyl-4-(methylamino)-6-oxo-2-(3-pyridinyl)- (CA INDEX NAME)

10/827,368 (RCE)



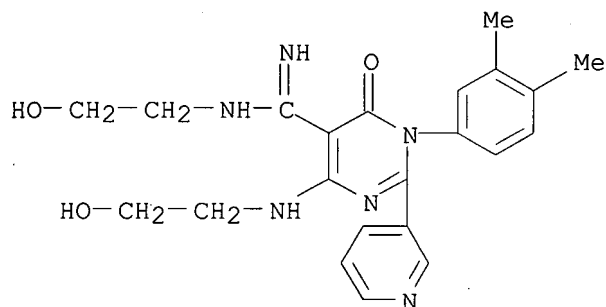
RN 916451-97-3 CAPLUS

CN 5-Pyrimidinecarboximidamide, 1-(3,4-dimethylphenyl)-1,6-dihydro-N-methyl-4-(methylamino)-6-oxo-2-(4-pyridinyl)- (CA INDEX NAME)



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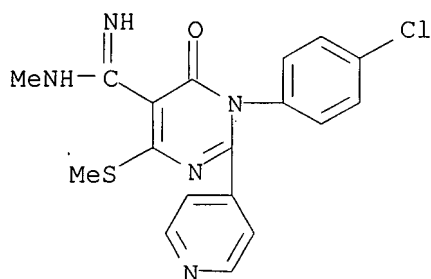
CN 5-Pyrimidinecarboximidamide, 1-(3,4-dimethylphenyl)-1,6-dihydro-N-(2-hydroxyethyl)-4-[(2-hydroxyethyl)amino]-6-oxo-2-(3-pyridinyl)- (CA INDEX NAME)



RN 916451-99-5 CAPLUS

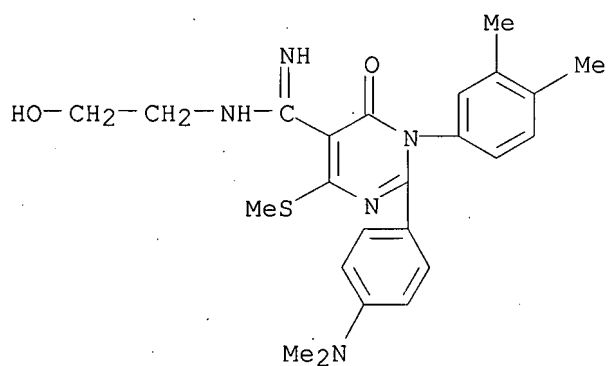
CN 5-Pyrimidinecarboximidamide, 1-(4-chlorophenyl)-1,6-dihydro-N-methyl-4-(methylthio)-6-oxo-2-(4-pyridinyl)- (CA INDEX NAME)

10/827,368 (RCE)



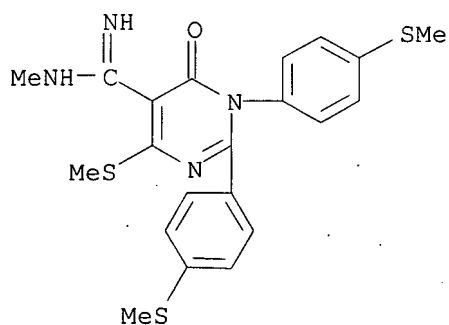
RN 916452-00-1 CAPLUS

CN 5-Pyrimidinecarboximidamide, 2-[4-(dimethylamino)phenyl]-1-(3,4-dimethylphenyl)-1,6-dihydro-N-(2-hydroxyethyl)-4-(methylthio)-6-oxo- (CA INDEX NAME)



RN 916452-01-2 CAPLUS

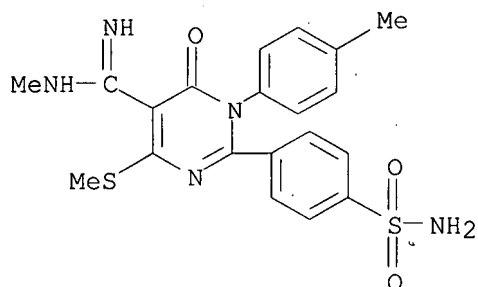
CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-N-methyl-4-(methylthio)-1,2-bis[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



RN 916452-03-4 CAPLUS

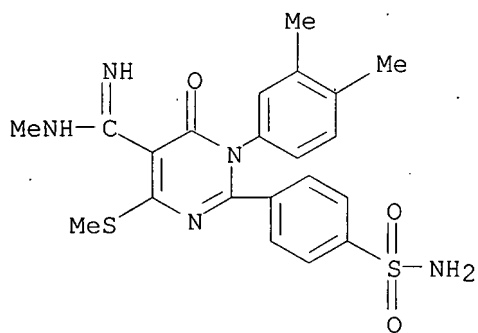
CN 5-Pyrimidinecarboximidamide, 2-[4-(aminosulfonyl)phenyl]-1,6-dihydro-N-methyl-1-(4-methylphenyl)-4-(methylthio)-6-oxo- (CA INDEX NAME)

10/827,368 (RCE)



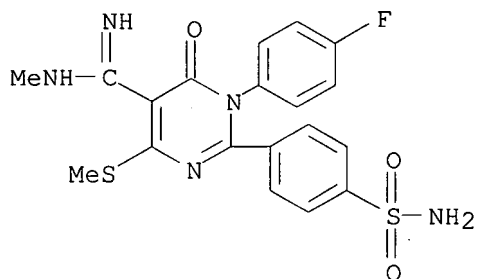
RN 916452-04-5 CAPLUS

CN 5-Pyrimidinecarboximidamide, 2-[4-(aminosulfonyl)phenyl]-1-(3,4-dimethylphenyl)-1,6-dihydro-N-methyl-4-(methylthio)-6-oxo- (CA INDEX NAME)



RN 916452-05-6 CAPLUS

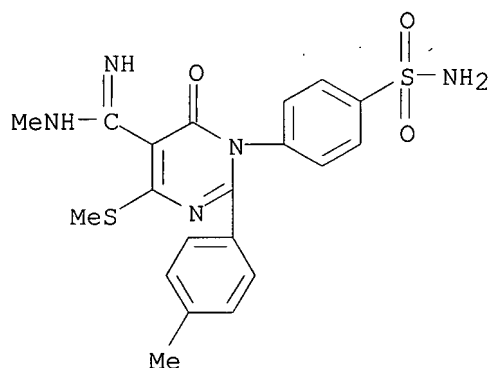
CN 5-Pyrimidinecarboximidamide, 2-[4-(aminosulfonyl)phenyl]-1-(4-fluorophenyl)-1,6-dihydro-N-methyl-4-(methylthio)-6-oxo- (CA INDEX NAME)



RN 916452-07-8 CAPLUS

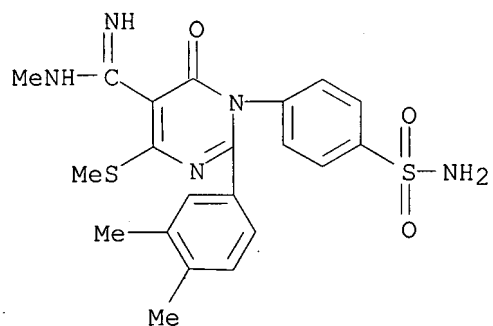
CN 5-Pyrimidinecarboximidamide, 1-[4-(aminosulfonyl)phenyl]-1,6-dihydro-N-methyl-2-(4-methylphenyl)-4-(methylthio)-6-oxo- (CA INDEX NAME)

10/827,368 (RCE)



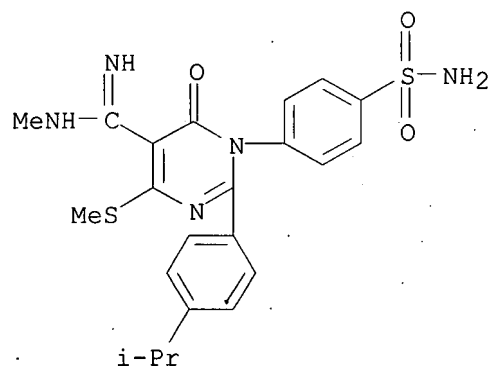
RN 916452-08-9 CAPLUS

CN 5-Pyrimidinecarboximidamide, 1-[4-(aminosulfonyl)phenyl]-2-(3,4-dimethylphenyl)-1,6-dihydro-N-methyl-4-(methylthio)-6-oxo- (CA INDEX NAME)



RN 916452-09-0 CAPLUS

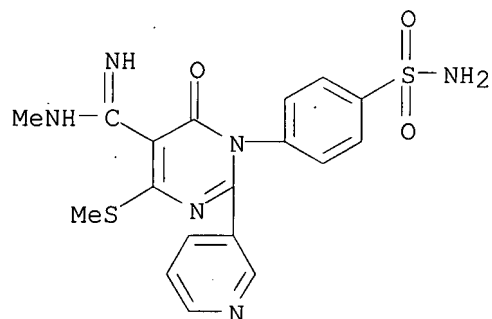
CN 5-Pyrimidinecarboximidamide, 1-[4-(aminosulfonyl)phenyl]-1,6-dihydro-N-methyl-2-[4-(1-methylethyl)phenyl]-4-(methylthio)-6-oxo- (CA INDEX NAME)



RN 916452-10-3 CAPLUS

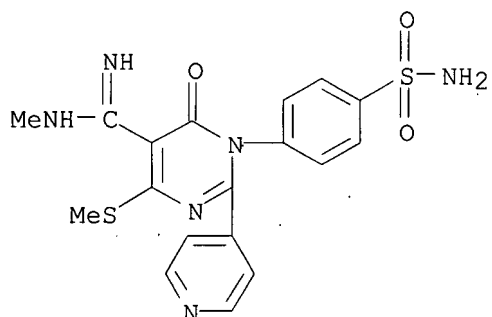
CN 5-Pyrimidinecarboximidamide, 1-[4-(aminosulfonyl)phenyl]-1,6-dihydro-N-methyl-4-(methylthio)-6-oxo-2-(3-pyridinyl)- (CA INDEX NAME)





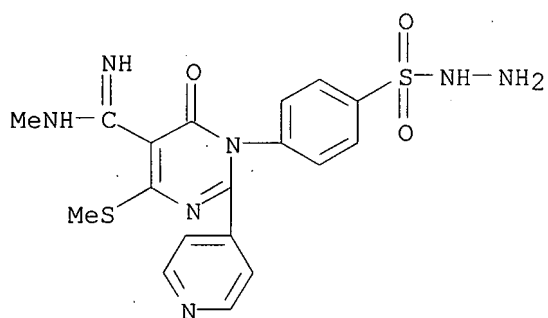
RN 916452-11-4 CAPLUS

CN 5-Pyrimidinecarboximidamide, 1-[4-(aminosulfonyl)phenyl]-1,6-dihydro-N-methyl-4-(methylthio)-6-oxo-2-(4-pyridinyl)- (CA INDEX NAME)



RN 916452-12-5 CAPLUS

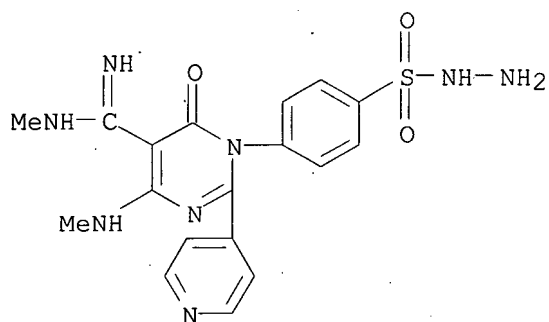
CN Benzenesulfonic acid, 4-[5-[imino(methylamino)methyl]-4-(methylthio)-6-oxo-2-(4-pyridinyl)-1(6H)-pyrimidinyl]-, hydrazide (CA INDEX NAME)



RN 916452-13-6 CAPLUS

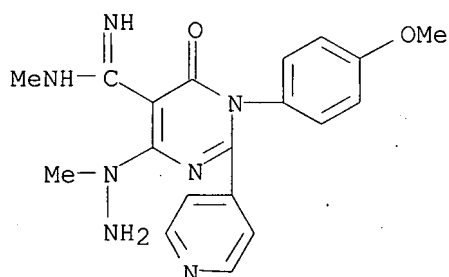
CN Benzenesulfonic acid, 4-[5-[imino(methylamino)methyl]-4-(methylamino)-6-oxo-2-(4-pyridinyl)-1(6H)-pyrimidinyl]-, hydrazide (CA INDEX NAME)

10/827,368 (RCE)



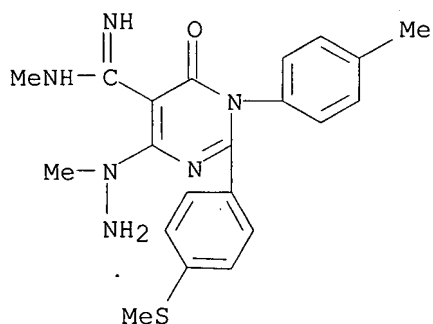
RN 916452-14-7 CAPLUS

CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-1-(4-methoxyphenyl)-N-methyl-4-(1-methylhydrazinyl)-6-oxo-2-(4-pyridinyl)- (CA INDEX NAME)



RN 916452-15-8 CAPLUS

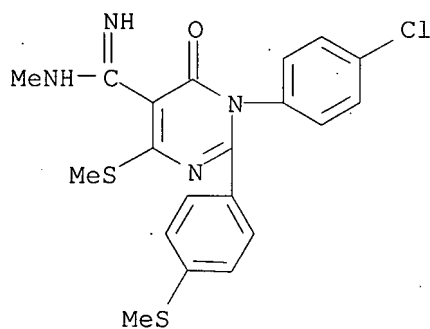
CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-N-methyl-4-(1-methylhydrazinyl)-1-(4-methylphenyl)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



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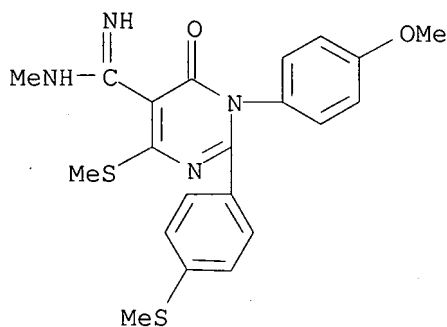
CN 5-Pyrimidinecarboximidamide, 1-(4-chlorophenyl)-1,6-dihydro-N-methyl-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)

10/827,368 (RCE)



RN 916452-17-0 CAPLUS

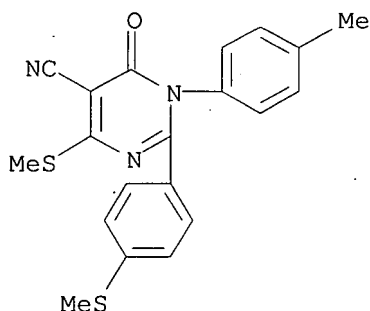
CN 5-Pyrimidinecarboximidamide, 1,6-dihydro-1-(4-methoxyphenyl)-N-methyl-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



IT 613663-83-5, 5-Cyano-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine 812691-92-2, 5-Cyano-1-(4-isopropylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine 812691-96-6, 5-Cyano-1-(3,4,5-trimethoxyphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1,6-dihydropyrimidine 812692-22-1, 5-Cyano-1-(3,4-dimethylphenyl)-4-(methylthio)-6-oxo-2-(pyridin-3-yl)-1,6-dihydropyrimidine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of pyrimidinedione derivs. for treating inflammatory diseases)

RN 613663-83-5 CAPLUS

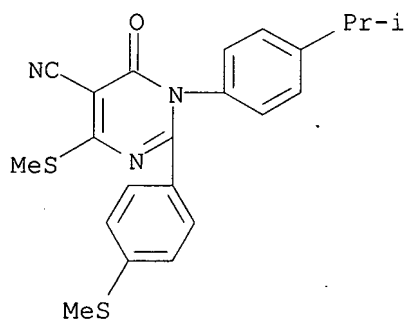
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RN 812691-92-2 CAPLUS

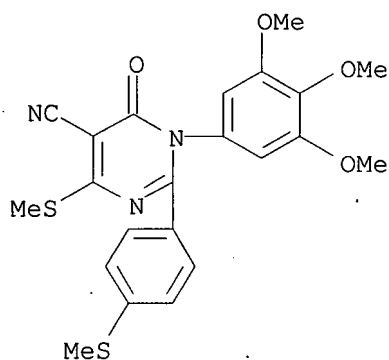
10/827,368 (RCE)

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-[4-(1-methylethyl)phenyl]-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



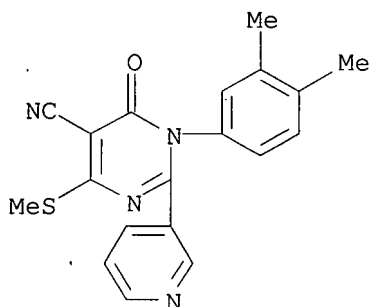
RN 812691-96-6 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1-(3,4,5-trimethoxyphenyl)- (CA INDEX NAME)



RN 812692-22-1 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(3-pyridinyl)- (CA INDEX NAME)



L7 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2006:411890 CAPLUS  
 DN 144:450725  
 TI Preparation of pyrazolopyrimidinones and analogs, and their compositions as cannabinoid CB1 receptor inhibitors  
 IN Liu, Hong; He, Xiaohui; Choi, Ha-Soon; Yang, Kunyong; Woodmansee, David; Wang, Zhicheng; Ellis, David Archer; Wu, Baogen; He, Yun; Nguyen, Truc Ngoc  
 PA Irm LLC, Bermuda  
 SO PCT Int. Appl., 259 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

|      | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|------|--|------|----------|-----------------|----------|
| PI   | WO 2006047516  | A2   | 20060504 | WO 2005-US38361 | 20051026 |
|      | WO 2006047516  | A3   | 20061012 |                 |          |
|      | W:   |      |          |                 |          |
|      | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |          |
|      | RW:  |      |          |                 |          |
|      | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM   |      |          |                 |          |
|      | AU 2005299421  | A1   | 20060504 | AU 2005-299421  | 20051026 |
|      | CA 2581225   | A1   | 20060504 | CA 2005-2581225 | 20051026 |
|      | EP 1807429   | A2   | 20070718 | EP 2005-813001  | 20051026 |
|      | R:   |      |          |                 |          |
|      | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, HR   |      |          |                 |          |
|      | NO 2007002352  | A    | 20070531 | NO 2007-2352    | 20070507 |
| PRAI | US 2004-622508P  | P    | 20041026 |                 |          |
|      | US 2005-672670P  | P    | 20050418 |                 |          |
|      | WO 2005-US38361  | W    | 20051026 |                 |          |

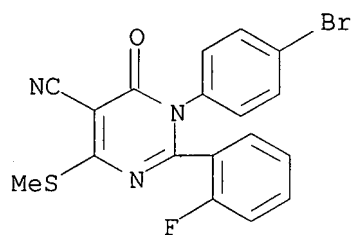
OS MARPAT 144:450725  
 AB Title compds. I [Y = O, NH and derivs., S; R1 = (un)substituted Ph, heteroaryl, cycloalkyl, benzyl; R2 = (un)substituted Ph, OPh, heterocycloalkyl, heteroaryl; R3 = H, halo, OH, CN, etc.; R4 = (un)substituted hetero/aryl, alkyl, etc.; and their pharmaceutically acceptable salts, hydrates, solvates and isomers; with the exception of certain compds.] were prepared as selective cannabinoid CB1 receptor inhibitors. Thus, II was prepared, in 3 steps, starting from 5-amino-1-phenyl-1H-pyrazole-4-carboxylic acid Et ester and 2,4-dichlorobenzoyl chloride. Preferred compds. I showed a 100 fold selectivity for CB1 over CB2 receptor. Pharmaceutical compns. comprising I are useful for preventing and treating diseases or disorders associated with the activity of CB1 receptor, e.g. metabolic disorders.  
 IT 885619-00-1P, 1-(4-Bromophenyl)-2-(2-fluorophenyl)-4-methylsulfanyl-6-oxo-1,6-dihydropyrimidine-5-carbonitrile  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (intermediate; preparation of pyrazolopyrimidinones and analogs as CB1 inhibitors)  
 RN 885619-00-1 CAPLUS  
 CN 5-Pyrimidinecarbonitrile, 1-(4-bromophenyl)-2-(2-fluorophenyl)-1,6-dihydro-

*Not prior*

*App. filing dt is 4/20/2004*

10/827,368 (RCE)

4-(methylthio)-6-oxo- (9CI) (CA INDEX NAME)



L7 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2005:1215763 CAPLUS  
 DN 143:477975  
 TI Preparation of pyrimidinones and quinazolinones as calcilytic compounds  
 IN Luengo, Juan I.; Marquis, Robert W., Jr.; Xie, Ren; Yamashita, Dennis S.  
 PA Smithkline Beecham Corporation, USA  
 SO PCT Int. Appl., 34 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

|      | PATENT NO.      | KIND   | DATE     | APPLICATION NO. | DATE     |
|------|-----------------|--|----------|-----------------|----------|
| PI   | WO 2005108376   | A1   | 20051117 | WO 2005-US15224 | 20050503 |
|      | W:              | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |          |                 |          |
|      | RW:             | BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BE, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG   |          |                 |          |
|      | EP 1742924      | A1   | 20070117 | EP 2005-744198  | 20050503 |
|      | R:              | AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, HR, LV   |          |                 |          |
| PRAI | US 2004-568585P | P  | 20040506 |                 |          |
|      | WO 2005-US15224 | W  | 20050503 |                 |          |

OS CASREACT 143:477975; MARPAT 143:477975

AB The title compds. I [R1, R2 = H, halo, CN, etc.; or R1 and R2 may be bonded together to form a carbocyclic, heterocyclic, aryl or heteroaryl ring; R3 = aryl or heteroaryl group which may have 1-5 substituents each selected from H, halo, CN, CF3, etc.; R4 = aryl which may have 1-3 substituents consisting of H, halo, CN, CF3, etc.; X = O or S], useful for treating a disease or disorder characterized by an abnormal bone or mineral homeostasis, were prepared E.g., a multi-step synthesis of 2-(2-hydroxyphenyl)-3-(4-isopropylphenyl)-5,6,7,8-tetrahydro-3H-quinazolin-4-one, starting from Et 2-aminocyclohex-1-enecarboxylate and 2-benzyloxybenzoyl chloride, was given. The methods for treating diseases or disorders such as osteosarcoma, periodontal disease, fracture healing, osteoarthritis, joint replacement, rheumatoid arthritis, Paget's disease, humoral hypercalcemia, malignancy and osteoporosis by administering the compound I alone or in combination with anti-resorptive agents are disclosed.

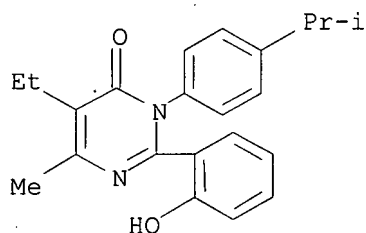
IT 869564-58-9P 869564-60-3P 869564-62-5P  
 869564-64-7P 869564-68-1P 869564-70-5P  
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 869564-98-7P 869564-99-8P 869565-00-4P  
 869565-01-5P 869565-02-6P 869565-03-7P  
 869565-04-8P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

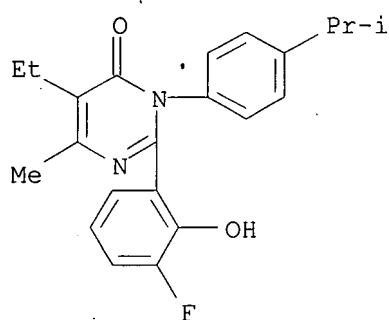
(preparation of pyrimidinones and quinazolinones as calcilytic compds.)

RN 869564-58-9 CAPLUS

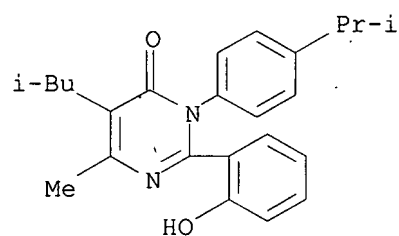
CN 4(3H)-Pyrimidinone, 5-ethyl-2-(2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 869564-60-3 CAPLUS  
CN 4(3H)-Pyrimidinone, 5-ethyl-2-(3-fluoro-2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)

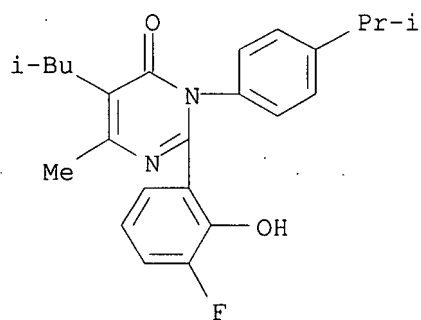


RN 869564-62-5 CAPLUS  
CN 4(3H)-Pyrimidinone, 2-(2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]-5-(2-methylpropyl)- (9CI) (CA INDEX NAME)



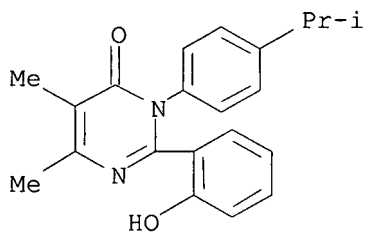
RN 869564-64-7 CAPLUS  
CN 4(3H)-Pyrimidinone, 2-(3-fluoro-2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]-5-(2-methylpropyl)- (9CI) (CA INDEX NAME)





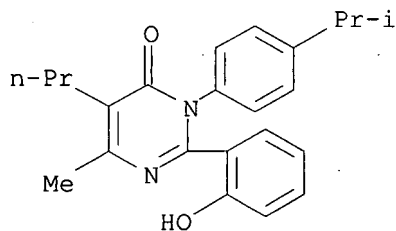
RN 869564-68-1 CAPLUS

CN 4(3H)-Pyrimidinone, 2-(2-hydroxyphenyl)-5,6-dimethyl-3-[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



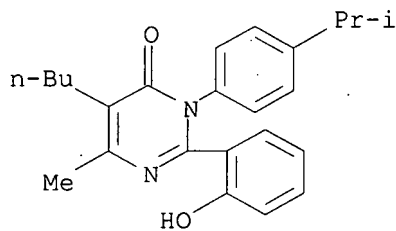
RN 869564-70-5 CAPLUS

CN 4(3H)-Pyrimidinone, 2-(2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]-5-propyl- (9CI) (CA INDEX NAME)



RN 869564-72-7 CAPLUS

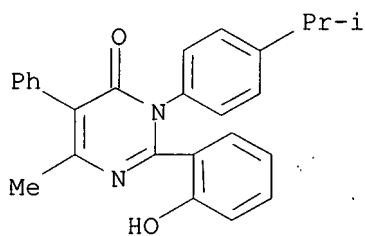
CN 4(3H)-Pyrimidinone, 5-butyl-2-(2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 869564-74-9 CAPLUS

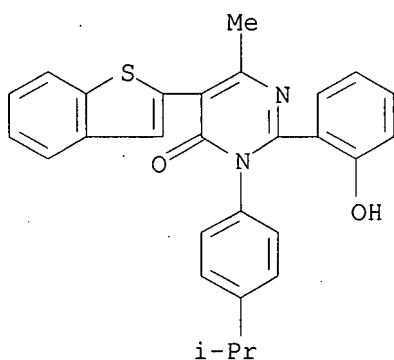
10/827,368 (RCE)

CN 4(3H)-Pyrimidinone, 2-(2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]-5-phenyl- (9CI) (CA INDEX NAME)



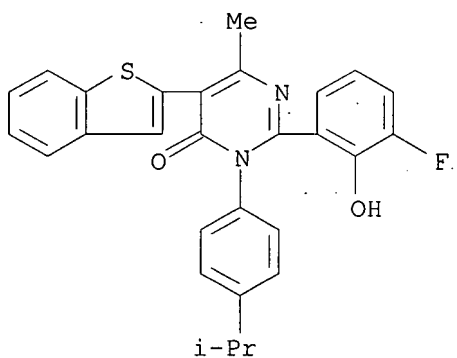
RN 869564-76-1 CAPLUS

CN 4(3H)-Pyrimidinone, 5-benzo[b]thien-2-yl-2-(2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 869564-98-7 CAPLUS

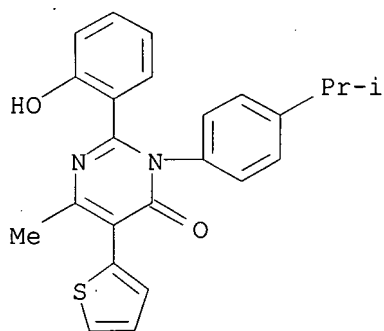
CN 4(3H)-Pyrimidinone, 5-benzo[b]thien-2-yl-2-(3-fluoro-2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 869564-99-8 CAPLUS

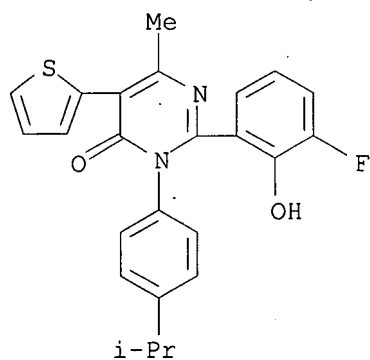
CN 4(3H)-Pyrimidinone, 2-(2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]-5-(2-thienyl)- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



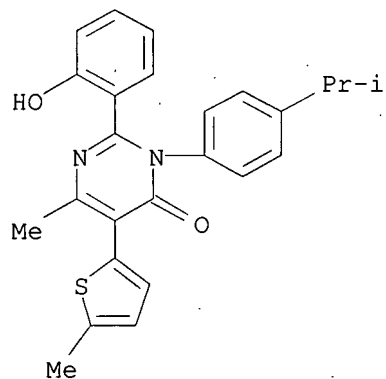
RN 869565-00-4 CAPLUS

4 (3H)-Pyrimidinone, 2-(3-fluoro-2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]-5-(2-thienyl)- (9CI) (CA INDEX NAME)



RN 869565-01-5 CAPLUS

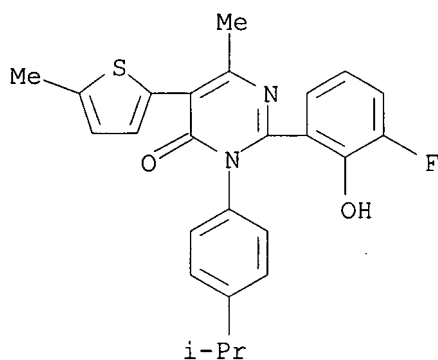
CN 4(3H)-Pyrimidinone, 2-(2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]-5-(5-methyl-2-thienyl)- (9CI) (CA INDEX NAME)



RN 869565-02-6 CAPLUS

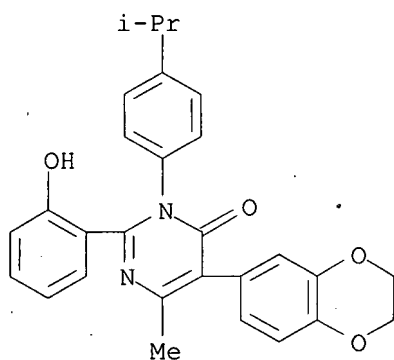
4 (3H)-Pyrimidinone, 2-(3-fluoro-2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]-5-(5-methyl-2-thienyl)- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



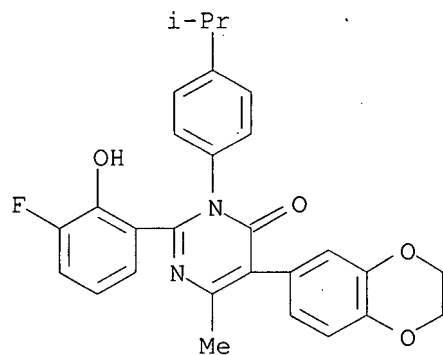
RN 869565-03-7 CAPLUS

CN 4(3H)-Pyrimidinone, 5-(2,3-dihydro-1,4-benzodioxin-6-yl)-2-(2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 869565-04-8 CAPLUS

CN 4(3H)-Pyrimidinone, 5-(2,3-dihydro-1,4-benzodioxin-6-yl)-2-(3-fluoro-2-hydroxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



IT 869564-88-5P 869564-95-4P 869564-96-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT

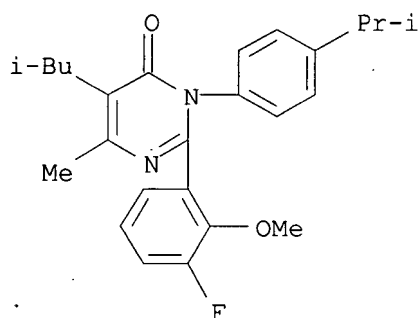
10/827,368 (RCE)

(Reactant or reagent)

(preparation of pyrimidinones and quinazolinones as calcilytic compds.)

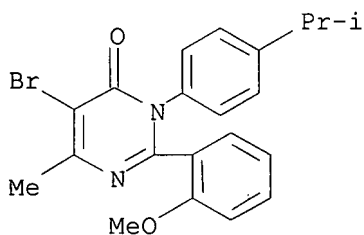
RN 869564-88-5 CAPLUS

CN 4(3H)-Pyrimidinone, 2-(3-fluoro-2-methoxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]-5-(2-methylpropyl)- (9CI) (CA INDEX NAME)



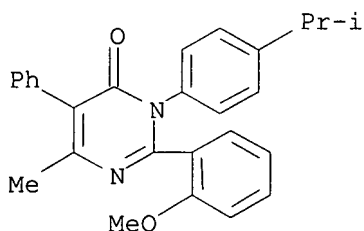
RN 869564-95-4 CAPLUS

CN 4(3H)-Pyrimidinone, 5-bromo-2-(2-methoxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 869564-96-5 CAPLUS

CN 4(3H)-Pyrimidinone, 2-(2-methoxyphenyl)-6-methyl-3-[4-(1-methylethyl)phenyl]-5-phenyl- (9CI) (CA INDEX NAME)



RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2005:1075505 CAPLUS  
 DN 143:367312  
 TI Preparation of novel condensed pyrimidones as cyclooxygenase inhibitors  
 IN Agarwal, Shiv Kumar; Tadiparthi, Ravi Kumar; Aggarwal, Pawan; Shivkumar, Savithri  
 PA Orchid Chemicals & Pharmaceuticals Ltd., India  
 SO PCT Int. Appl., 38 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

*Common Inv.*

| PATENT NO.       | KIND | DATE     | APPLICATION NO. | DATE     |
|------------------|------|----------|-----------------|----------|
| PI WO 2005091711 | A2   | 20051006 | WO 2005-IB736   | 20050322 |
| WO 2005091711    | A3   | 20060309 |                 |          |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

IN 2004CH00270 A 20051202 IN 2004-CH270 20040324

PRAI IN 2004-CH270 A 20040324

OS MARPAT 143:367312

AB The title compds. I [X = O, S; Ar1, Ar2 = (un)substituted aryl, heteroaryl, heterocyclyl; R1, R2 = H, OH, NO2, etc.], useful for lowering plasma concns. of cytokines, and for decreasing cyclooxygenase activity, were prepared Thus, reacting guanidine.HCl with 5-cyano-1-(4-methylphenyl)-4-methylthio-2-(4-methylthiophenyl)-1,6-dihydropyrimidin-6-one in the presence of anhydrous K2CO3 in DMF afforded 23% I [X = O; Ar1 = 4-MeC6H4; Ar2 = 4-(MeS)C6H4; R1, R2 = NH2] which showed 29% COX-2 inhibition and 53% IL-6 inhibition. The present invention relates also to the pharmaceutically acceptable salts and pharmaceutically acceptable compns. containing compds. I.

IT 613663-83-5, 5-Cyano-1-(4-methylphenyl)-4-methylthio-2-(4-methylthiophenyl)-1,6-dihydropyrimidin-6-one 812691-92-2, 5-Cyano-1-(4-isopropylphenyl)-4-methylthio-2-(4-methylthiophenyl)-1,6-dihydropyrimidin-6-one 812691-93-3, 5-Cyano-1-(3,4-dimethylphenyl)-4-methylthio-2-(4-methylthiophenyl)-1,6-dihydropyrimidin-6-one

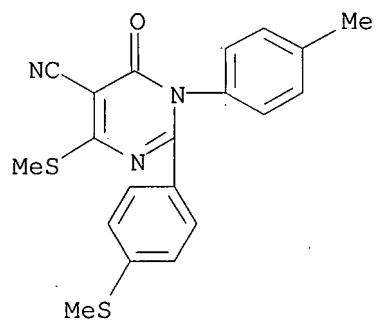
RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of novel condensed pyrimidones as cyclooxygenase inhibitors)

RN 613663-83-5 CAPLUS

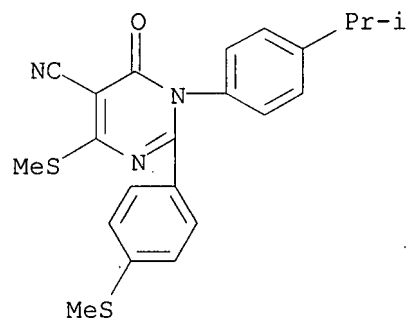
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)

*not prior*

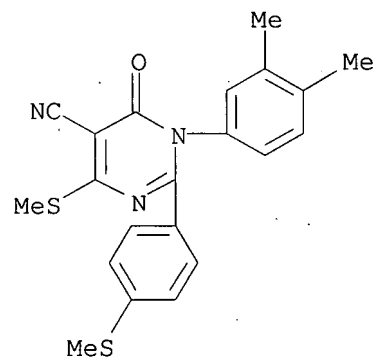
10/827,368 (RCE)



RN 812691-92-2 CAPLUS  
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-[4-(1-methylethyl)phenyl]-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



RN 812691-93-3 CAPLUS  
CN 5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



L7 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2004:1127094 CAPLUS  
 DN 142:74592  
 TI Preparation of novel pyrimidones for treating inflammation and immunol. diseases  
 IN Agarwal, Shiv Kumar; Tadiparthi, Ravikumar; Aggarwal, Pawan; Shivakumar, Savithiri; Dey, Debendranath; Nag, Biswajit  
 PA Orchid Chemical & Pharmaceuticals Limited, India  
 SO U.S. Pat. Appl. Publ., 42 pp., Cont.-in-part of U.S. Ser. No. 409,045.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 5

*Appl PG Pub*

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | US 2004259891  | A1   | 20041223 | US 2004-827368  | 20040420 |
|      | IN 2002MA00266 | A    | 20050304 | IN 2002-MA266   | 20020410 |
|      | US 2003225075  | A1   | 20031204 | US 2003-409045  | 20030409 |
|      | US 2006194799  | A1   | 20060831 | US 2006-414229  | 20060501 |
| PRAI | IN 2002-MA266  | A    | 20020410 |                 |          |
|      | US 2003-409045 | A2   | 20030409 |                 |          |
|      | US 2003-409153 | A3   | 20030409 |                 |          |

OS MARPAT 142:74592

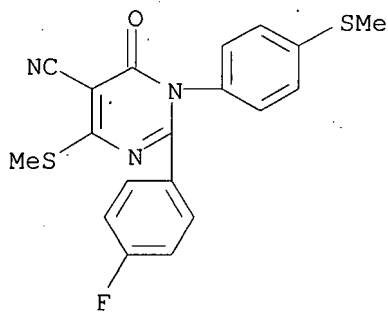
AB The title compds. [I; X = O, S, NR (R = H, OH, acyl, etc.); A, B = (hetero)aryl; R1, R3 = H, SR7, SOPR8 (R7 = H, alkyl, aryl; R8 = halo, alkyl, NH2, acylamino, arylamino, aryl; p = 1-2); R2, R4 = H, halo, OH, etc.; R5, R6 = H, halo, OH, NO2, etc.; n, m = 0-4], useful for treating inflammation and immunol. diseases mediated by cytokines such as TNF- $\alpha$ , IL-1, IL-6, IL-1 $\beta$ , IL-8 and cyclooxygenase such as COX-2 and COX-3, were prepared Thus, reacting Et 2-cyano-3,3-dimethylthioacrylate with N-(4-methylthiophenyl)-4-fluorobenzamidine (preparation given) afforded II which showed 53.38% COX-2 inhibition. The pharmaceutical compns. comprising the compound I are disclosed.

IT 613663-79-9P 613663-83-5P 812691-93-3P  
 812692-27-6P 812692-31-2P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)  
 (preparation of novel pyrimidones for treating inflammation and immunol. diseases)

RN 613663-79-9 CAPLUS

CN 5-Pyrimidinecarbonitrile, 2-(4-fluorophenyl)-1,6-dihydro-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



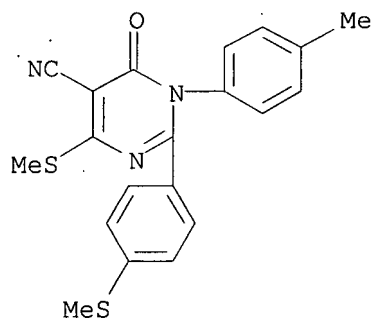
RN 613663-83-5 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-2-



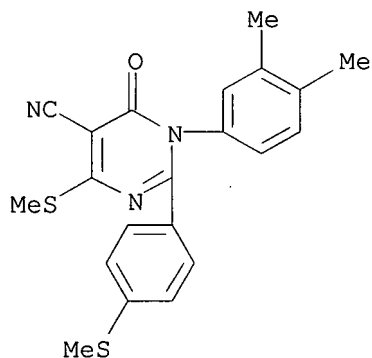
10/827,368 (RCE)

[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



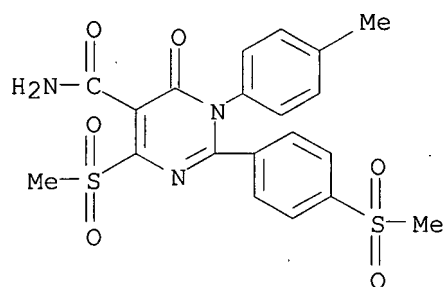
RN 812691-93-3 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



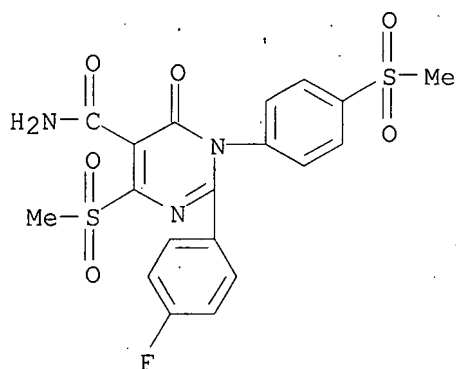
RN 812692-27-6 CAPLUS

CN 5-Pyrimidinecarboxamide, 1,6-dihydro-1-(4-methylphenyl)-4-(methanysulfonyl)-2-[4-(methanysulfonyl)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812692-31-2 CAPLUS

CN 5-Pyrimidinecarboxamide, 2-(4-fluorophenyl)-1,6-dihydro-4-(methanesulfonyl)-1-[4-(methanesulfonyl)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



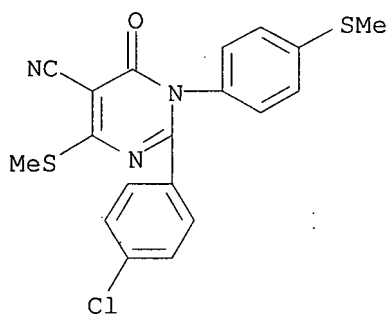
IT 613663-78-8P 613663-81-3P 613663-82-4P  
 613663-84-6P 613663-85-7P 613663-95-9P  
 812691-92-2P 812691-94-4P 812691-95-5P  
 812691-96-6P 812691-97-7P 812691-98-8P  
 812691-99-9P 812692-01-6P 812692-02-7P  
 812692-03-8P 812692-04-9P 812692-05-0P  
 812692-07-2P 812692-08-3P 812692-09-4P  
 812692-10-7P 812692-11-8P 812692-12-9P  
 812692-13-0P 812692-14-1P 812692-15-2P  
 812692-16-3P 812692-17-4P 812692-18-5P  
 812692-19-6P 812692-20-9P 812692-21-0P  
 812692-22-1P 812692-23-2P 812692-24-3P  
 812692-25-4P 812692-26-5P 812692-28-7P  
 812692-29-8P 812692-30-1P 812692-32-3P  
 812692-33-4P 812692-34-5P 812692-35-6P  
 812692-36-7P 812692-37-8P 812692-38-9P  
 812692-39-0P 812692-41-4P 812692-42-5P  
 812692-70-9P 812692-71-0P 812692-72-1P  
 812692-73-2P 812692-74-3P 812692-75-4P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
 (Uses)

(preparation of novel pyrimidones for treating inflammation and immunol.  
 diseases)

RN 613663-78-8 CAPLUS

CN 5-Pyrimidinecarbonitrile, 2-(4-chlorophenyl)-1,6-dihydro-4-(methylthio)-1-  
 [4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)

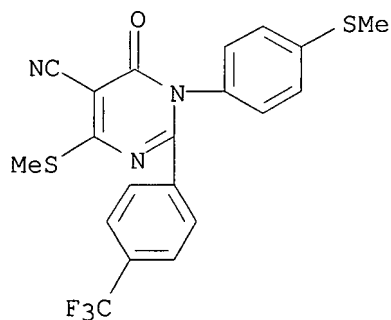


RN 613663-81-3 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-4-(methylthio)-1-[4-

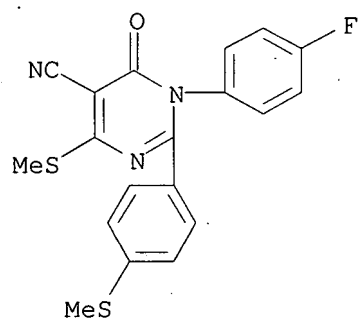
10/827,368 (RCE)

(methylthio)phenyl]-6-oxo-2-[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



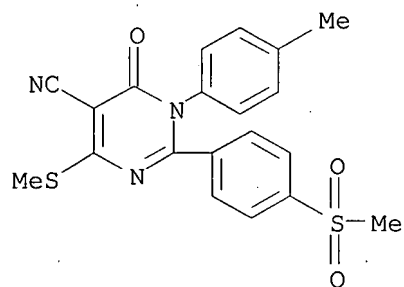
RN 613663-82-4 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(4-fluorophenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 613663-84-6 CAPLUS

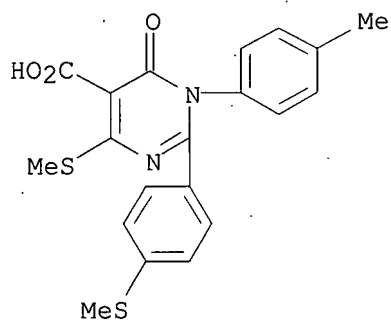
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methylphenyl)-2-[4-(methylsulfonyl)phenyl]-4-(methylthio)-6-oxo- (9CI) (CA INDEX NAME)



RN 613663-85-7 CAPLUS

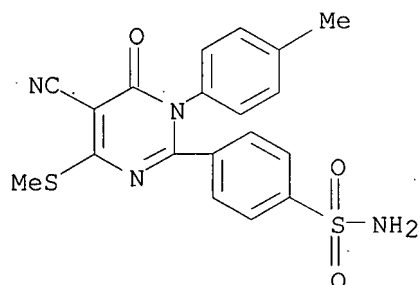
CN 5-Pyrimidinecarboxylic acid, 1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



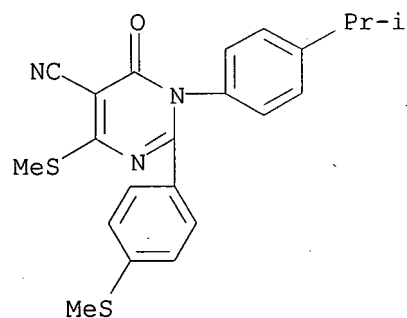
RN 613663-95-9 CAPLUS

CN Benzenesulfonamide, 4-[5-cyano-1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-6-oxo-2-pyrimidinyl]- (9CI) (CA INDEX NAME)



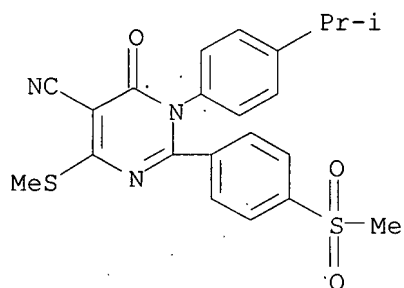
RN 812691-92-2 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-[4-(1-methylethyl)phenyl]-2-[4-(methylthio)phenyl]-4-(methylthio)-6-oxo- (CA INDEX NAME)



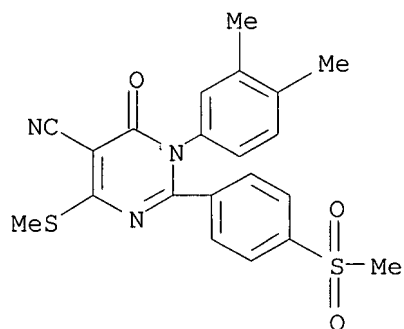
RN 812691-94-4 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-[4-(1-methylethyl)phenyl]-2-[4-(methylthio)phenyl]-4-(methylthio)-6-oxo- (9CI) (CA INDEX NAME)



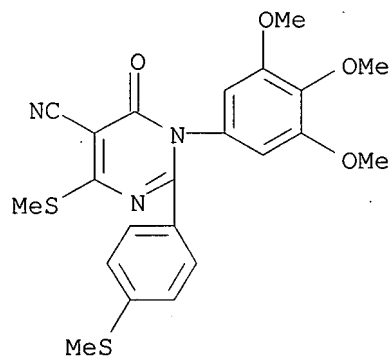
RN 812691-95-5 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-2-[4-(methylsulfonyl)phenyl]-4-(methylthio)-6-oxo- (9CI) (CA INDEX NAME)



RN 812691-96-6 CAPLUS

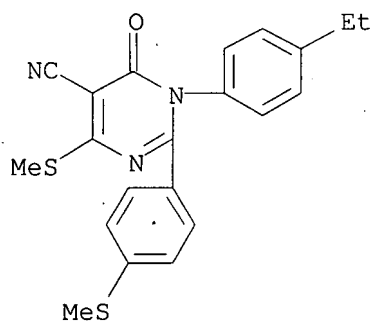
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-1-(3,4,5-trimethoxyphenyl)- (CA INDEX NAME)



RN 812691-97-7 CAPLUS

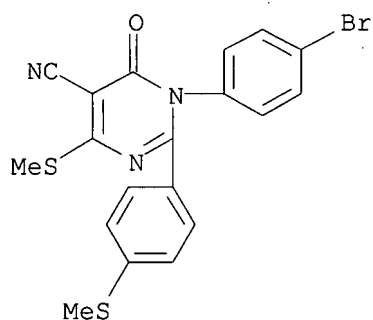
CN 5-Pyrimidinecarbonitrile, 1-(4-ethylphenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



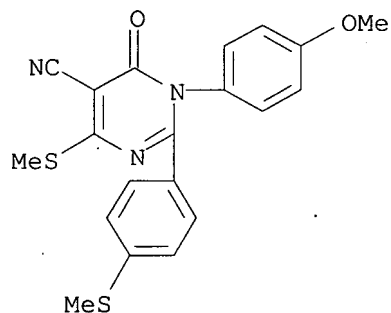
RN 812691-98-8 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(4-bromophenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812691-99-9 CAPLUS

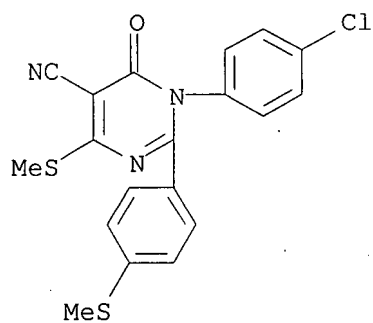
CN 5-Pyrimidinecarbonitrile, 1-(4-methoxyphenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812692-01-6 CAPLUS

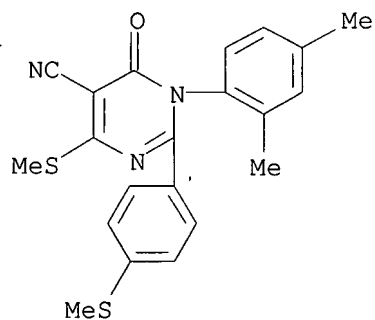
CN 5-Pyrimidinecarbonitrile, 1-(4-chlorophenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



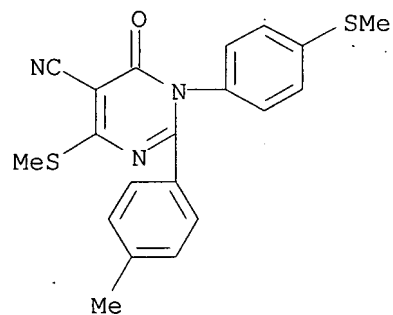
RN 812692-02-7 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(2,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812692-03-8 CAPLUS

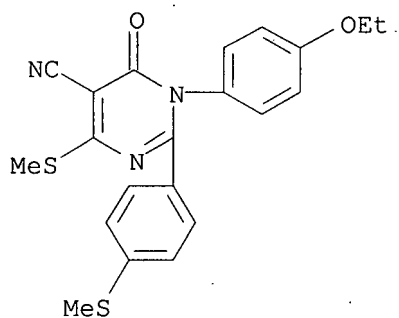
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-2-(4-methylphenyl)-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812692-04-9 CAPLUS

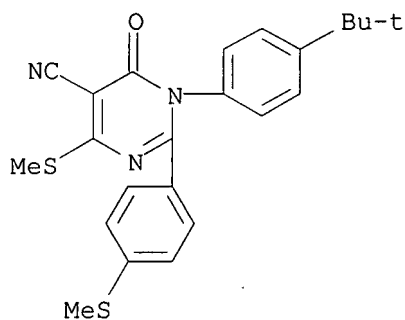
CN 5-Pyrimidinecarbonitrile, 1-(4-ethoxyphenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



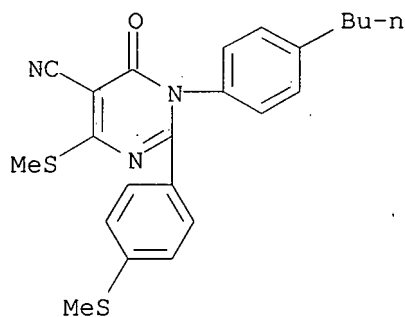
RN 812692-05-0 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-[4-(1,1-dimethylethyl)phenyl]-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812692-07-2 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(4-butylphenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)

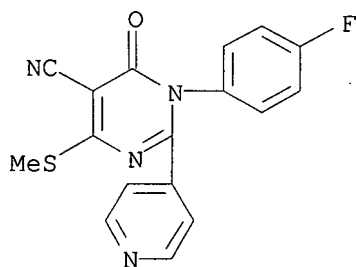


RN 812692-08-3 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(4-fluorophenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(4-pyridinyl)- (9CI) (CA INDEX NAME)

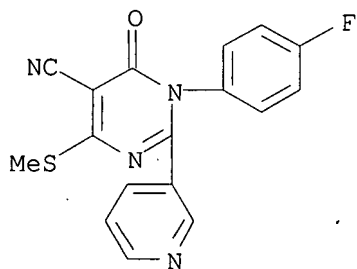


10/827,368 (RCE)



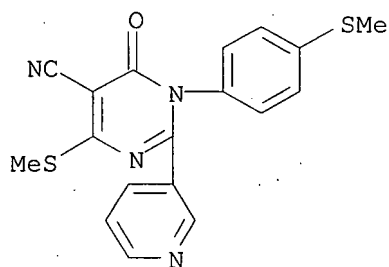
RN 812692-09-4 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(4-fluorophenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(3-pyridinyl)- (9CI) (CA INDEX NAME)



RN 812692-10-7 CAPLUS

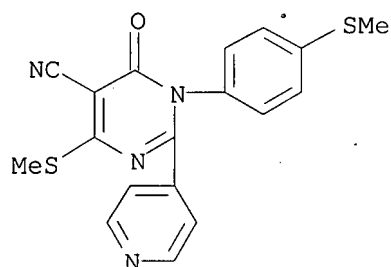
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo-2-(3-pyridinyl)- (9CI) (CA INDEX NAME)



RN 812692-11-8 CAPLUS

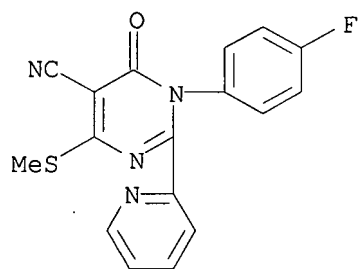
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo-2-(4-pyridinyl)- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



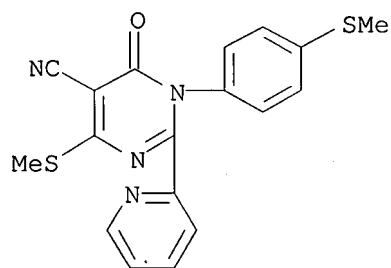
RN 812692-12-9 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(4-fluorophenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(2-pyridinyl)- (9CI) (CA INDEX NAME)



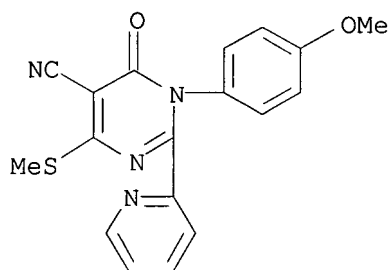
RN 812692-13-0 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo-2-(2-pyridinyl)- (9CI) (CA INDEX NAME)



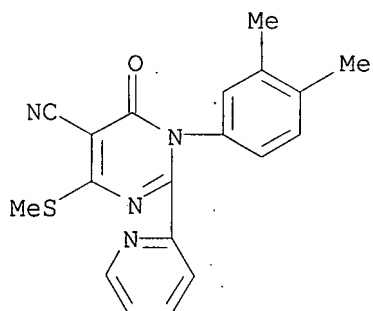
RN 812692-14-1 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methoxyphenyl)-4-(methylthio)-6-oxo-2-(2-pyridinyl)- (9CI) (CA INDEX NAME)



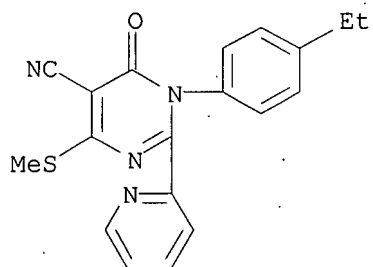
RN 812692-15-2 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(2-pyridinyl)- (9CI) (CA INDEX NAME)



RN 812692-16-3 CAPLUS

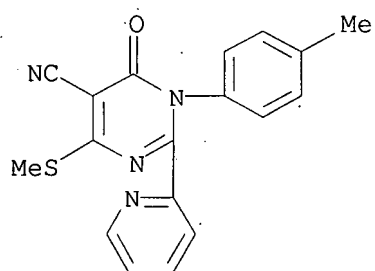
CN 5-Pyrimidinecarbonitrile, 1-(4-ethylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(2-pyridinyl)- (9CI) (CA INDEX NAME)



RN 812692-17-4 CAPLUS

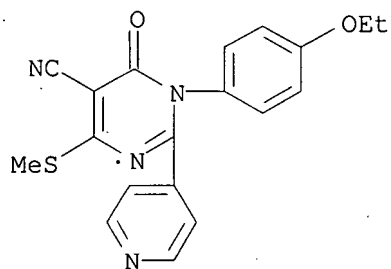
CN 5-Pyrimidinecarbonitrile, 1-(4-methylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(2-pyridinyl)- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



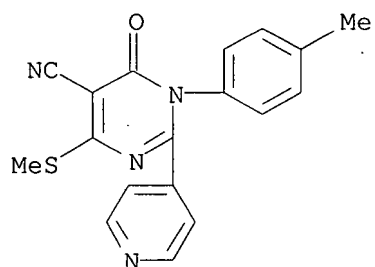
RN 812692-18-5 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(4-ethoxyphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(4-pyridinyl)- (9CI) (CA INDEX NAME)



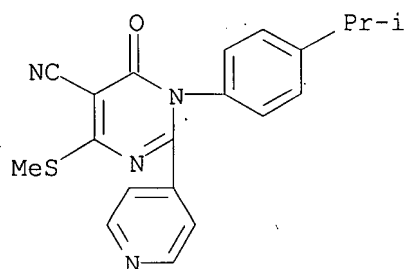
RN 812692-19-6 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-6-oxo-2-(4-pyridinyl)- (9CI) (CA INDEX NAME)



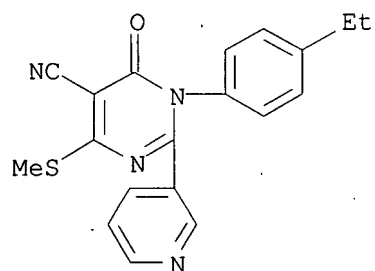
RN 812692-20-9 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-[4-(1-methylethyl)phenyl]-4-(methylthio)-6-oxo-2-(4-pyridinyl)- (9CI) (CA INDEX NAME)



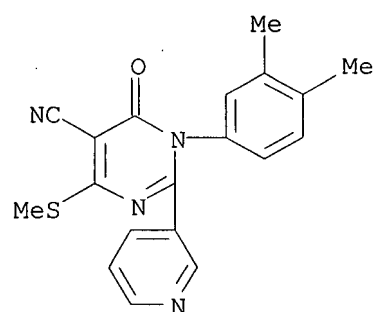
RN 812692-21-0 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(4-ethylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(3-pyridinyl)- (9CI) (CA INDEX NAME)



RN 812692-22-1 CAPLUS

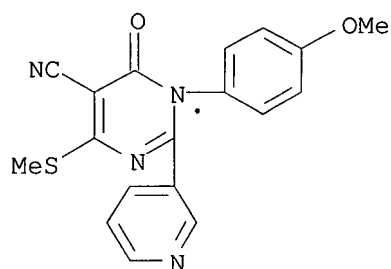
CN 5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(3-pyridinyl)- (CA INDEX NAME)



RN 812692-23-2 CAPLUS

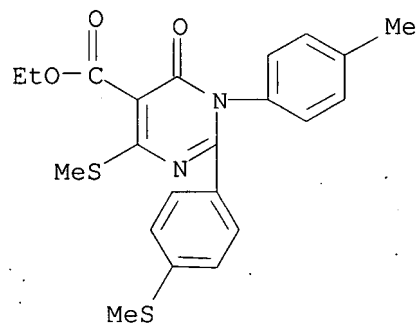
CN 5-Pyrimidinecarbonitrile, 1-(4-methoxyphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-(3-pyridinyl)- (CA INDEX NAME)

10/827,368 (RCE)



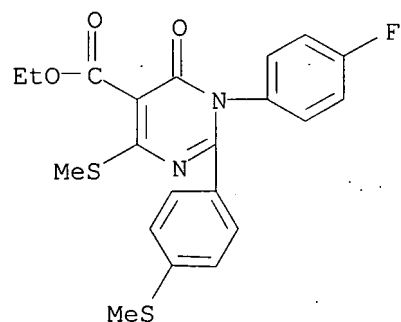
RN 812692-24-3 CAPLUS

CN 5-Pyrimidinecarboxylic acid, 1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-, ethyl ester (9CI) (CA INDEX NAME)



RN 812692-25-4 CAPLUS

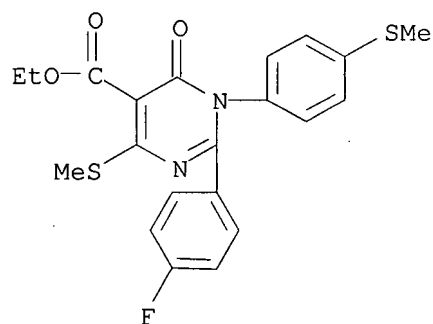
CN 5-Pyrimidinecarboxylic acid, 1-(4-fluorophenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo-, ethyl ester (9CI) (CA INDEX NAME)



RN 812692-26-5 CAPLUS

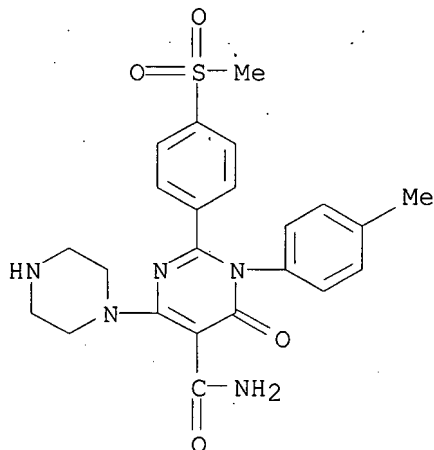
CN 5-Pyrimidinecarboxylic acid, 2-(4-fluorophenyl)-1,6-dihydro-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo-, ethyl ester (9CI) (CA INDEX NAME)

10/827,368 (RCE)



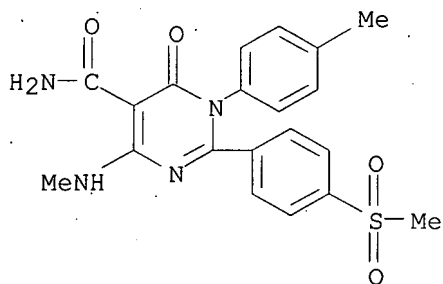
RN 812692-28-7 CAPLUS

CN 5-Pyrimidinecarboxamide, 1,6-dihydro-1-(4-methylphenyl)-2-[4-(methylsulfonyl)phenyl]-6-oxo-4-(1-piperazinyl)- (9CI) (CA INDEX NAME)



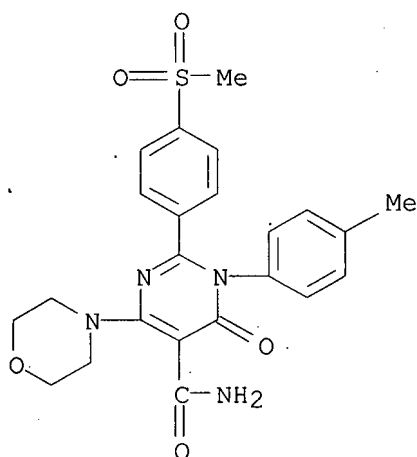
RN 812692-29-8 CAPLUS

CN 5-Pyrimidinecarboxamide, 1,6-dihydro-4-(methylamino)-1-(4-methylphenyl)-2-[4-(methylsulfonyl)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



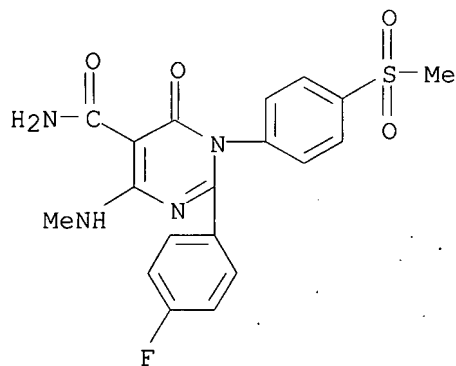
RN 812692-30-1 CAPLUS

CN 5-Pyrimidinecarboxamide, 1,6-dihydro-1-(4-methylphenyl)-2-[4-(methylsulfonyl)phenyl]-4-(4-morpholinyl)-6-oxo- (9CI) (CA INDEX NAME)



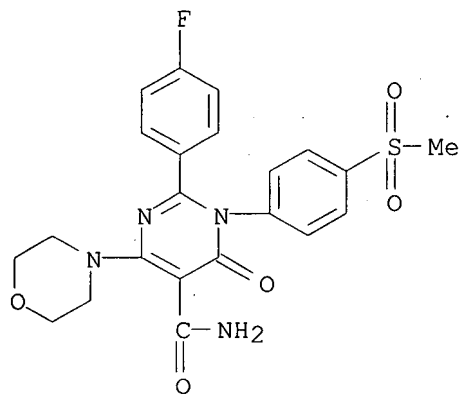
RN 812692-32-3 CAPLUS

CN 5-Pyrimidinecarboxamide, 2-(4-fluorophenyl)-1,6-dihydro-4-(methylamino)-1-[4-(methylsulfonyl)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812692-33-4 CAPLUS

CN 5-Pyrimidinecarboxamide, 2-(4-fluorophenyl)-1,6-dihydro-1-[4-(methylsulfonyl)phenyl]-4-(4-morpholinyl)-6-oxo- (9CI) (CA INDEX NAME)

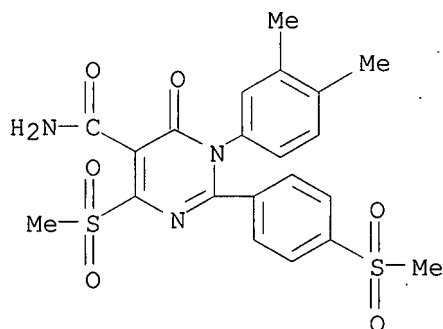




10/827,368 (RCE)

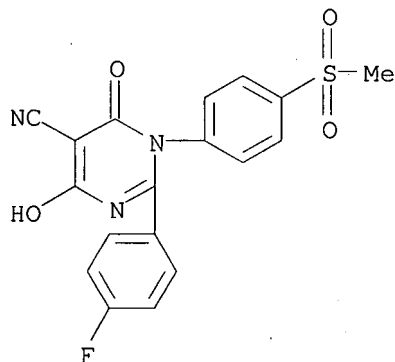
RN 812692-34-5 CAPLUS

CN 5-Pyrimidinecarboxamide, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylsulfonyl)-2-[4-(methylsulfonyl)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



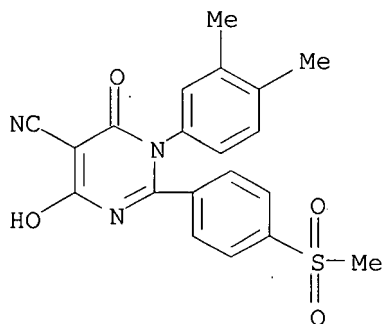
RN 812692-35-6 CAPLUS

5-Pyrimidinecarbonitrile, 2-(4-fluorophenyl)-1,6-dihydro-4-hydroxy-1-[4-(methylsulfonyl)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812692-36-7 CAPLUS

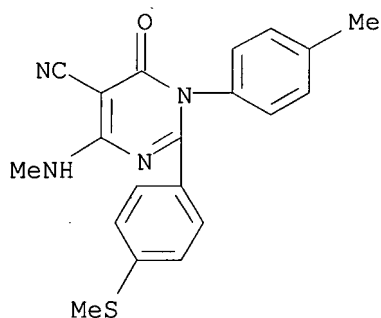
5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-hydroxy-2-[4-(methylsulfonyl)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812692-37-8 CAPLUS

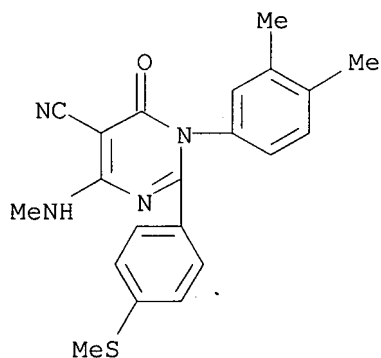
10/827,368 (RCE)

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-4-(methylamino)-1-(4-methylphenyl)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



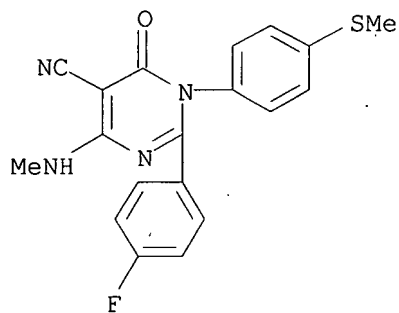
RN 812692-38-9 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylamino)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812692-39-0 CAPLUS

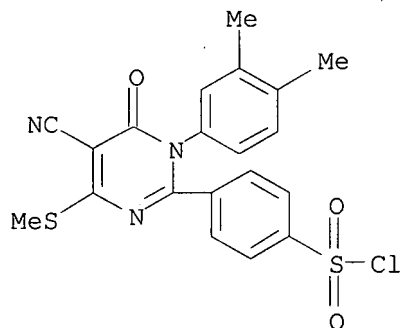
CN 5-Pyrimidinecarbonitrile, 2-(4-fluorophenyl)-1,6-dihydro-4-(methylamino)-1-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 812692-41-4 CAPLUS

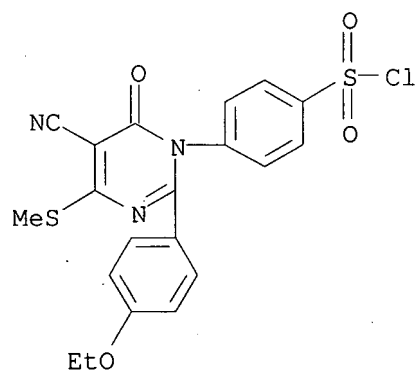
CN Benzenesulfonyl chloride, 4-[5-cyano-1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-pyrimidinyl]- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



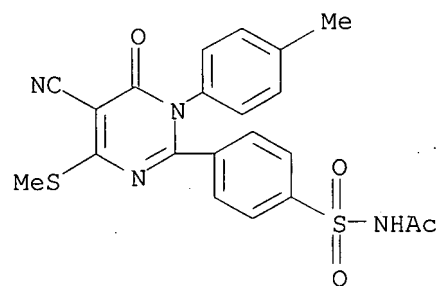
RN 812692-42-5 CAPLUS

CN Benzenesulfonyl chloride, 4-[5-cyano-2-(4-ethoxyphenyl)-4-(methylthio)-6-oxo-1(6H)-pyrimidinyl]- (9CI) (CA INDEX NAME)



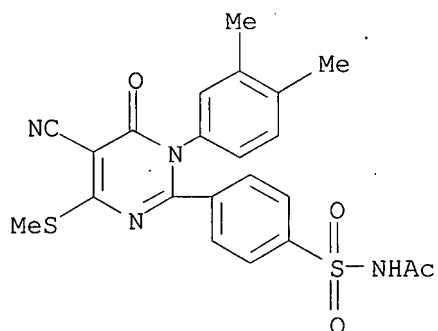
RN 812692-70-9 CAPLUS

CN Acetamide, N-[[4-[5-cyano-1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-6-oxo-2-pyrimidinyl]phenyl]sulfonyl]- (9CI) (CA INDEX NAME)



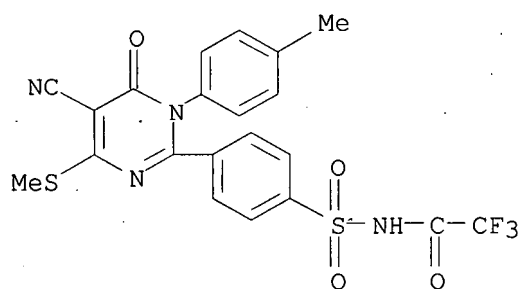
RN 812692-71-0 CAPLUS

CN Acetamide, N-[[4-[5-cyano-1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-pyrimidinyl]phenyl]sulfonyl]- (9CI) (CA INDEX NAME)



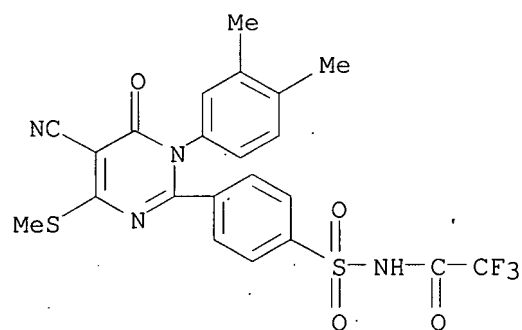
RN 812692-72-1 CAPLUS

CN Acetamide, N-[[4-[5-cyano-1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-6-oxo-2-pyrimidinyl]phenyl]sulfonyl]-2,2,2-trifluoro- (9CI) (CA INDEX NAME)



RN 812692-73-2 CAPLUS

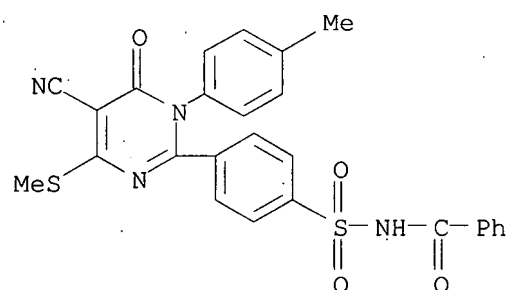
CN Acetamide, N-[[4-[5-cyano-1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-pyrimidinyl]phenyl]sulfonyl]-2,2,2-trifluoro- (9CI) (CA INDEX NAME)



RN 812692-74-3 CAPLUS

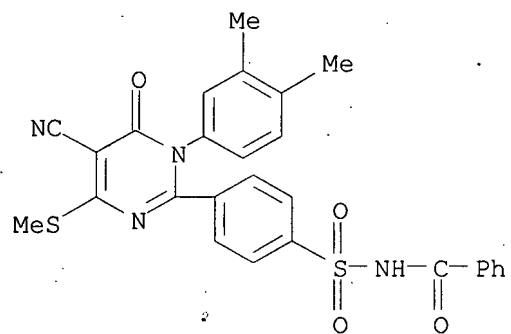
CN Benzamide, N-[[4-[5-cyano-1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-6-oxo-2-pyrimidinyl]phenyl]sulfonyl]- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



RN 812692-75-4 CAPLUS

CN Benzamide, N-[[4-[5-cyano-1-(3,4-dimethylphenyl)-1,6-dihydro-4-(methylthio)-6-oxo-2-pyrimidinyl]phenyl]sulfonyl]- (9CI) (CA INDEX NAME)



L7 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003:818406 CAPLUS  
 DN 139:323531  
 TI Preparation of novel pyrimidones for treating inflammation and immunol. diseases  
 IN Agarwal, Shiv Kumar; Tadiparthi, Ravikumar; Aggarwal, Pawan; Shivakumar, Savithiri; Dey, Debendranath; Nag, Biswajit  
 PA Orchid Chemicals & Pharmaceuticals Limited, India  
 SO PCT Int. Appl., 47 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 5

*Same Inv. Entity*

|      | PATENT NO.   | KIND | DATE     | APPLICATION NO. | DATE     |
|------|--|------|----------|-----------------|----------|
| PI   | WO 2003084938  | A2   | 20031016 | WO 2003-IB1306  | 20030410 |
|      | WO 2003084938  | A3   | 20040205 |                 |          |
|      | W:   |      |          |                 |          |
|      | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW |      |          |                 |          |
|      | RW:  |      |          |                 |          |
|      | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG   |      |          |                 |          |
|      | IN 2002MA00266   | A    | 20050304 | IN 2002-MA266   | 20020410 |
|      | US 2003232813  | A1   | 20031218 | US 2003-409161  | 20030409 |
|      | US 2004009975  | A1   | 20040115 | US 2003-409153  | 20030409 |
|      | US 7101873   | B2   | 20060905 |                 |          |
|      | CA 2481825   | A1   | 20031016 | CA 2003-2481825 | 20030410 |
|      | AU 2003216592  | A1   | 20031020 | AU 2003-216592  | 20030410 |
|      | EP 1492774   | A2   | 20050105 | EP 2003-712500  | 20030410 |
|      | R:   |      |          |                 |          |
|      | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK   |      |          |                 |          |
|      | CN 1656080   | A    | 20050817 | CN 2003-812546  | 20030410 |
|      | JP 2005535570  | T    | 20051124 | JP 2003-582135  | 20030410 |
|      | IN 2004CH00353   | A    | 20060526 | IN 2004-CH353   | 20040419 |
|      | US 2006194799  | A1   | 20060831 | US 2006-414229  | 20060501 |
| PRAI | IN 2002-MA266  | A    | 20020410 |                 |          |
|      | US 2003-409153   | A3   | 20030409 |                 |          |
|      | WO 2003-IB1306   | W    | 20030410 |                 |          |

*Not another*

*Priority*

OS MARPAT 139:323531  
 AB Th title compds. [I; X = O, S, NR (R = H, OH, acyl, etc.); A, B = (hetero)aryl; R1, R3 = SR7, SOPR8 (R7 = alkyl, aryl; R8 = alkyl, NH2, aryl; p = 1-2); R2, R4 = H, halo, OH, etc.; R5, R6 = H, halo, OH, NO2, etc.; n, m = 0-2], useful for treating inflammation and immunol. diseases mediated by cytokines such as TNF- $\alpha$ , IL-1, IL-6, IL-1 $\beta$ , IL-8 and cyclooxygenase such as COX-2 and COX-3, were prepared and formulated. Thus, reacting Et 2-cyano-3,3-dimethylthioacrylate with N-(4-methylthiophenyl)-4-fluorobenzamidine (preparation given) afforded II which showed 53.38% COX-2 inhibition. Pharmaceutical composition comprising the compound I is claimed.  
 IT 613663-78-8P 613663-79-9P 613663-81-3P  
 613663-82-4P 613663-83-5P 613663-84-6P  
 613663-85-7P 613663-92-6P 613663-93-7P  
 613663-94-8P 613663-95-9P 613663-96-0P  
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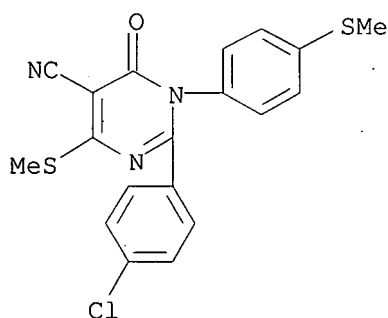
10/827,368 (RCE)

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of novel pyrimidones for treating inflammation and immunol. diseases)

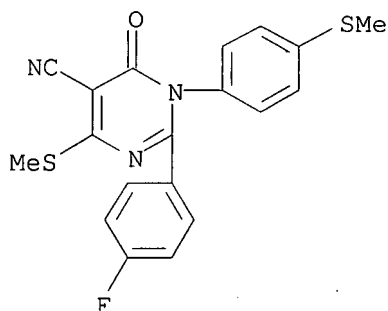
RN 613663-78-8 CAPLUS

CN 5-Pyrimidinecarbonitrile, 2-(4-chlorophenyl)-1,6-dihydro-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



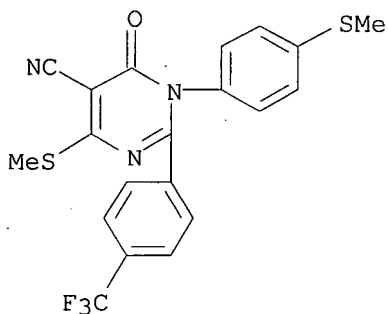
RN 613663-79-9 CAPLUS

CN 5-Pyrimidinecarbonitrile, 2-(4-fluorophenyl)-1,6-dihydro-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 613663-81-3 CAPLUS

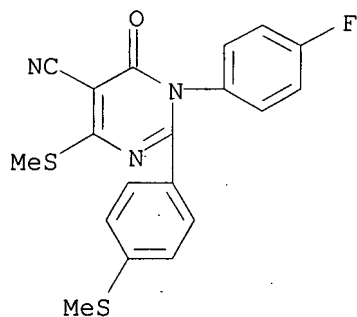
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-4-(methylthio)-1-[4-(methylthio)phenyl]-6-oxo-2-[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



10/827,368 (RCE)

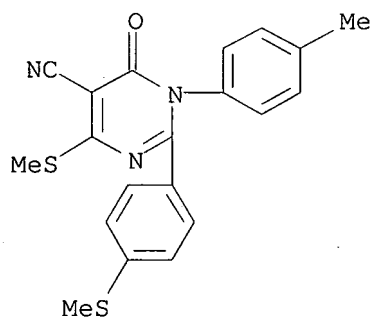
RN 613663-82-4 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(4-fluorophenyl)-1,6-dihydro-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



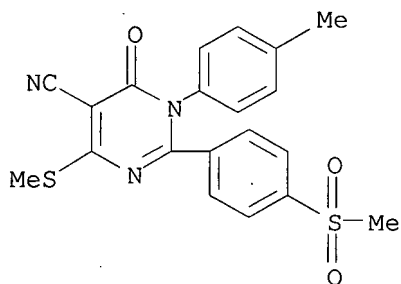
RN 613663-83-5 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (CA INDEX NAME)



RN 613663-84-6 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methylphenyl)-2-[4-(methylsulfonyl)phenyl]-4-(methylthio)-6-oxo- (9CI) (CA INDEX NAME)

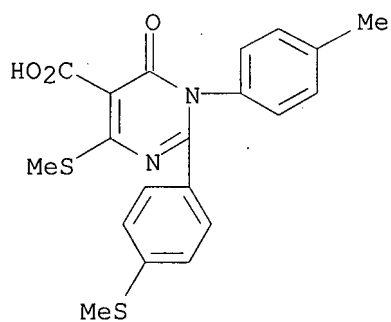


RN 613663-85-7 CAPLUS

CN 5-Pyrimidinecarboxylic acid, 1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)

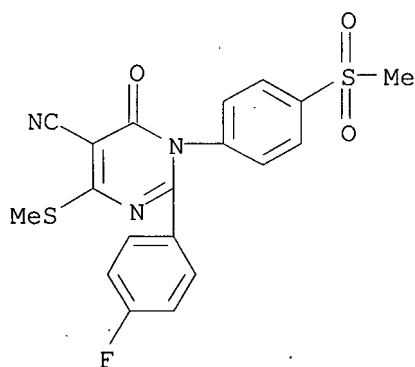


10/827,368 (RCE)



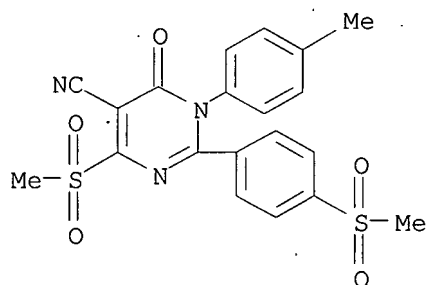
RN 613663-92-6 CAPLUS

CN 5-Pyrimidinecarbonitrile, 2-(4-fluorophenyl)-1,6-dihydro-1-[4-(methylsulfonyl)phenyl]-4-(methylthio)-6-oxo- (9CI) (CA INDEX NAME)



RN 613663-93-7 CAPLUS

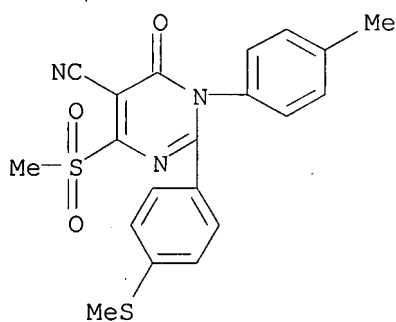
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methylphenyl)-4-(methylsulfonyl)-2-[4-(methylsulfonyl)phenyl]-6-oxo- (9CI) (CA INDEX NAME)



RN 613663-94-8 CAPLUS

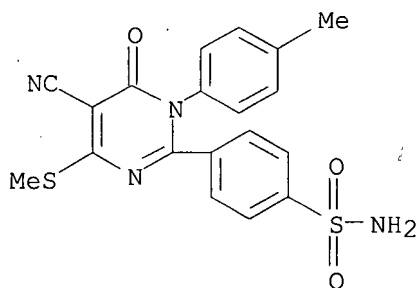
CN 5-Pyrimidinecarbonitrile, 1,6-dihydro-1-(4-methylphenyl)-4-(methylsulfonyl)-2-[4-(methylthio)phenyl]-6-oxo- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



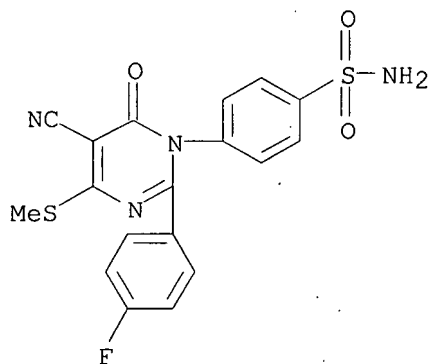
RN 613663-95-9 CAPLUS

CN Benzenesulfonamide, 4-[5-cyano-1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-6-oxo-2-pyrimidinyl]- (9CI) (CA INDEX NAME)



RN 613663-96-0 CAPLUS

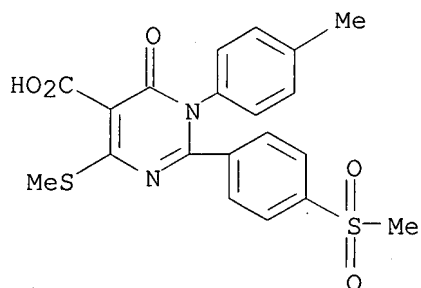
CN Benzenesulfonamide, 4-[5-cyano-2-(4-fluorophenyl)-4-(methylthio)-6-oxo-1(6H)-pyrimidinyl]- (9CI) (CA INDEX NAME)



RN 613663-97-1 CAPLUS

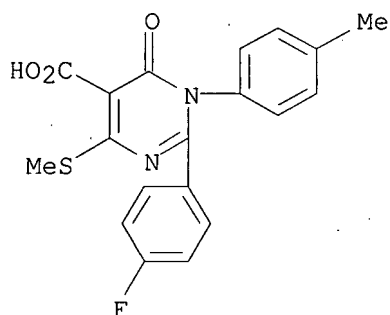
CN 5-Pyrimidinecarboxylic acid, 1,6-dihydro-1-(4-methylphenyl)-2-[4-(methylsulfonyl)phenyl]-4-(methylthio)-6-oxo- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



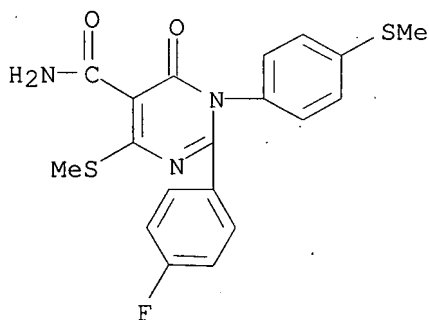
RN 613663-98-2 CAPLUS

CN 5-Pyrimidinecarboxylic acid, 2-(4-fluorophenyl)-1,6-dihydro-1-(4-methylphenyl)-4-(methylthio)-6-oxo- (9CI) (CA INDEX NAME)



RN 613664-00-9 CAPLUS

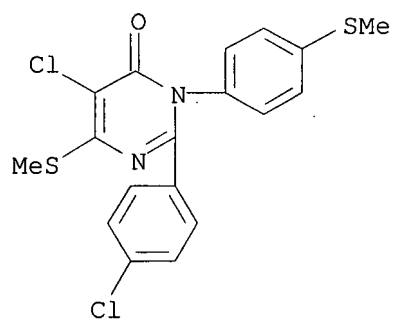
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RN 613664-01-0 CAPLUS

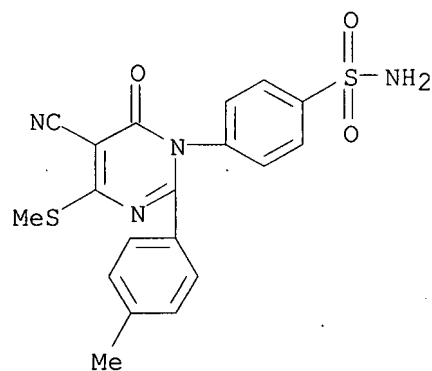
CN 4(3H)-Pyrimidinone, 5-chloro-2-(4-chlorophenyl)-6-(methylthio)-3-[4-(methylthio)phenyl]- (9CI) (CA INDEX NAME)

10/827,368 (RCE)



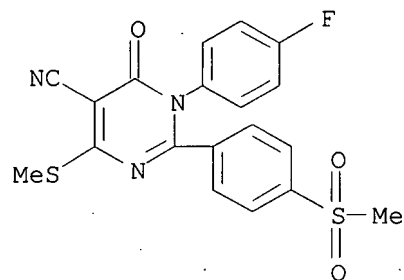
RN 613664-07-6 CAPLUS

CN Benzenesulfonamide, 4-[5-cyano-2-(4-methylphenyl)-4-(methylthio)-6-oxo-1(6H)-pyrimidinyl]- (9CI) (CA INDEX NAME)



RN 613664-09-8 CAPLUS

CN 5-Pyrimidinecarbonitrile, 1-(4-fluorophenyl)-1,6-dihydro-2-[4-(methylsulfonyl)phenyl]-4-(methylthio)-6-oxo- (9CI) (CA INDEX NAME)



L7 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1957:39274 CAPLUS

DN 51:39274

OREF 51:7380a-i

TI Synthesis of 2,3,5,6-substituted 4-pyrimidones

AU Staskun, Benjamin; Stephen, Henry

CS Univ. Witwatersrand Johannesburg, S. Afr.

SO Journal of the Chemical Society (1956) 4708-10

CODEN: JCSOA9; ISSN: 0368-1769

DT Journal

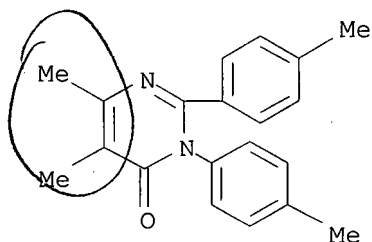
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OS CASREACT 51:39274

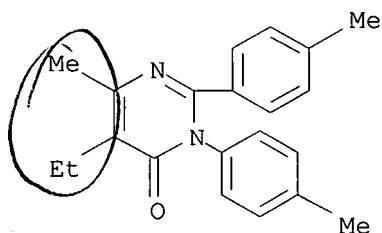
AB 2,3,5,6-Substituted 4-pyrimidones (I) were readily synthesized by condensation of imidoyl chlorides (II) with Me or Et  $\alpha$ -alkyl- $\beta$ -aminocrotonates (III). The following general procedure was used: II (0.01 mole) and III (0.005, 0.01, or 0.02 mole) were refluxed 3-4 hrs. in 40 cc. dry CHCl<sub>3</sub> (method A) or allowed to remain at room temperature 2-3 days (method B). In some cases II and III were heated in the absence of a solvent (method C), HCl and alc. being evolved. The products were acidified with dilute HCl and steam distilled; this hydrolyzed any unchanged ester to steam volatile or H<sub>2</sub>O soluble products, and converted unchanged II to the amide. After cooling, the latter was removed, and the filtrate treated with C and NH<sub>3</sub> deposited crude I which crystallized from dilute MeOH or alc. in colorless needles. The following I were prepared by the above methods (R and R substituents in II (RCCl:NR'), R' and X in III (MeC(NH<sub>2</sub>):CR''CO<sub>2</sub>X), molar ratio II:III, method, reaction temperature, reaction time in hrs., % yield, and m.p. given): Ph, Ph, Me, Me, 1:1, C, 140°, 0.5, -, -; Ph, Ph, Me, Et, 1:1, C, 140°, 0.5, 45, 157°; Ph, Ph, Et, Et, 1:2, A, -, 4, 79, 159°; Ph, o-C<sub>6</sub>H<sub>4</sub>Me, Me, Me, 1:1, A, -, 3, 53, 114°; Ph, o-C<sub>6</sub>H<sub>4</sub>Me, Et, Et, 1:2, A, -, 4, 80, 152°; Ph, m-C<sub>6</sub>H<sub>4</sub>Me, Me, Me, 1:1, C, 100°, 0.5, 31, 129°; Ph, m-C<sub>6</sub>H<sub>4</sub>Me, Me, Et, 1:1, C, 100°, 0.5, 28, -; Ph, m-C<sub>6</sub>H<sub>4</sub>Me, Et, Me, 1:1, C, 100°, 0.5, 77, 136°; Ph, m-C<sub>6</sub>H<sub>4</sub>Me, Et, Et, 1:2, A, -, 3, -, -; Ph, p-C<sub>6</sub>H<sub>4</sub>Me, Me, Me, 1:2, A, -, 3, 77, 146°; Ph, p-C<sub>6</sub>H<sub>4</sub>Me, Et, Et, 1:2, B, -, 3, 75, 152°; Ph, 2,4,1-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, Me, Me, 2:1, A, -, 3, 83, 152°; Ph, 2,4,1-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, Me, Et, 2:1, A, -, 3, -, -; Ph, 2,4,1-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, Et, Et, 2:1, A, -, 3, 83, 146°; Ph, p-MeOC<sub>6</sub>H<sub>4</sub>, Et, Et, 1:2, B, -, 3, 81, 161°; Ph, p-MeOC<sub>6</sub>H<sub>4</sub>, Pr, Me, 1:2, C, 155°, 0.5, 55, 163°; Ph, m-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>, Me, Me, 1:2, C, 140°, 0.5, 62, 159°; Ph, m-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>, Me, Et, 1:2, C, 140°, 0.5, 34, -; Ph, m-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>, Et, Me, 1:2, C, 140°, 0.5, 24, 160°; Ph, m-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>, Et, Et, 1:2, C, 140°, 0.5, 38, -; Ph, 1-Cl<sub>10</sub>H<sub>7</sub>, Me, Et, 1:2, A, -, 3, 64, 174°; Ph, 2-Cl<sub>10</sub>H<sub>7</sub>, Me, Et, 1:2, A, -, 3, 50, 189°; Ph, 2-Cl<sub>10</sub>H<sub>7</sub>, Et, Et, 1:2, A, -, 3, 40, 184°; Ph, o-C<sub>6</sub>H<sub>4</sub>Cl, Me, Et, 2:1, A, -, 3, 13, 151°; Ph, o-C<sub>6</sub>H<sub>4</sub>Cl, Et, Et, 2:1, C, 170°, 0.5, 32, 192°; Ph, m-C<sub>6</sub>H<sub>4</sub>Cl, Me, Me, 1:1, C, 150°, 0.5, 35, 152°; Ph, p-C<sub>6</sub>H<sub>4</sub>Cl, Et, Et, 1:2, C, 185°, 0.5, 59, 148°; Ph, p-C<sub>6</sub>H<sub>4</sub>Cl, Pr, Me, 1:2, C, 185°, 0.5, 37, 154°; Ph, Et, Et, Et, 1:2, B, -, 3, 73, 82°; Ph, Et, Me, Et, 1:2, B, -, 3, 51, 118°; o-C<sub>6</sub>H<sub>4</sub>Me, Ph, Me, Me, 2:1, A, -, 3, 80, 112°; o-C<sub>6</sub>H<sub>4</sub>Me, Ph, Et, Et, 2:1, A, -, 3, 74, 137°; p-C<sub>6</sub>H<sub>4</sub>Cl, Ph, Et, Et, 1:2, C, 155°, 0.5, 67, 146°; p-C<sub>6</sub>H<sub>4</sub>Cl, Ph, Pr, Me, 1:2, C, 155°, 0.5, 21, 151°; 3,4,5-(MeO)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>, Ph, Me, Me, 1:2, A, -, 3, 20, 181°; 3,4,5-(MeO)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>, Ph, Et, Et, 1:2, A, -, 3, 37, 129°. The synthesis of I was modified by preparing II by rearrangement of ketoximes (IV) with PCl<sub>5</sub>. The following procedures were used. A solution of IV (0.01 mole) in 50 cc. CHCl<sub>3</sub> was treated at 0° with 0.01 mole PCl<sub>5</sub>, the whole shaken 1-2 min., and the solution treated by one of the following procedures. The solution refluxed 15 min. to complete the rearrangement of

IV, the III (0.02-0.03 mole) added in 10 cc.  $\text{CHCl}_3$ , and reflux continued 2-3 hrs. (method D). Alternatively, the solution after remaining 2 hrs. at room temperature was cooled to  $10^\circ$ , the III (0.02-0.03 mole) in 10 cc.  $\text{CHCl}_3$  added, and the mixture left 1-2 days at room temperature (method E). The following method (F) gave good yields of I. The solution of rearranged IV, after 2 hrs. at room temperature was distilled at  $40-5^\circ/30$  min., then stored 1-2 days with 0.02-0.03 mole III, and the products treated as previously described. I were crystallized as colorless needles from MeOH or alc. The following results were obtained (IV, R' in III, method, % yield, and m.p. of I given): PhMeC:NOH, Et, E, 65,  $126^\circ$ ; (p-MeC<sub>6</sub>H<sub>4</sub>)MeC:NOH, Et, E, 65,  $82^\circ$ ; (p-MeC<sub>6</sub>H<sub>4</sub>)MeC:NOH, Me, D, 65,  $146^\circ$ ; 2-C<sub>10</sub>H<sub>7</sub>CMe:NOH, Et, F, 65,  $130^\circ$ ; PhPrC:NOH, Et, E, 72,  $106^\circ$ ; PhPrC:NOH, Me, E, 35,  $73^\circ$ ; (p-MeC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>C:NOH, Me, F, 73,  $128^\circ$ ; (p-MeC<sub>6</sub>H<sub>4</sub>)<sub>2</sub>C:NOH, Et, F, 60,  $140^\circ$ ; Ph<sub>2</sub>C:NOH, Et, D, 55,  $157^\circ$ . Improved yields of I were obtained by using excess II or III.

IT 102316-51-8P, 4(3H)-Pyrimidinone, 5,6-dimethyl-2,3-di-p-tolyl-  
102660-46-8P; 4(3H)-Pyrimidinone, 5-ethyl-6-methyl-2,3-di-p-tolyl-  
RL: PREP (Preparation)  
(preparation of)  
RN 102316-51-8 CAPLUS  
CN 4(3H)-Pyrimidinone, 5,6-dimethyl-2,3-di-p-tolyl- (6CI) (CA INDEX NAME)



RN 102660-46-8 CAPLUS  
CN 4(3H)-Pyrimidinone, 5-ethyl-6-methyl-2,3-di-p-tolyl- (6CI) (CA INDEX NAME)



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FILE 'REGISTRY' ENTERED AT 19:44:08 ON 05 AUG 2007

L1 SCREEN 1840  
L2 SCREEN 2016 OR 2026 OR 2039 OR 2040 OR 2045 OR 2047  
L3 STRUCTURE UPLOADED  
L4 QUE L3 AND L1 NOT L2  
L5 1 S L4 SSS SAM  
L6 133 S L4 SSS FUL

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L7 10 S L6

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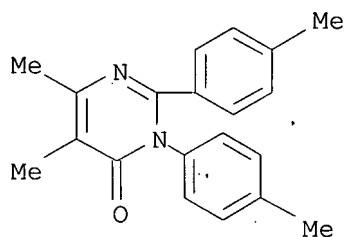
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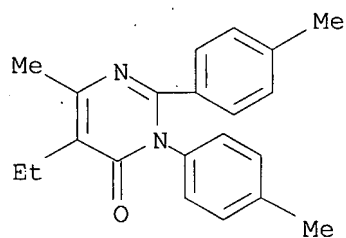
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10/827,368 (RCE)

L8 ANSWER 1 OF 1 CAOLD COPYRIGHT 2007 ACS on STN  
AN CA51:7380a CAOLD  
TI synthesis of 2,3,5,6-substituted 4-pyrimidones  
AU Staskun, Benjamin; Stephen, H.  
IT 102316-51-8 102660-46-8  
RN 102316-51-8 CAOLD  
CN 4(3H)-Pyrimidinone, 5,6-dimethyl-2,3-di-p-tolyl- (6CI) (CA INDEX NAME)



RN 102660-46-8 CAOLD  
CN 4(3H)-Pyrimidinone, 5-ethyl-6-methyl-2,3-di-p-tolyl- (6CI) (CA INDEX NAME)





10/827,368 (RCE)

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

3.47

229.40

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

0.00

-7.80

STN INTERNATIONAL LOGOFF AT 19:46:33 ON 05 AUG 2007